# Adam's Language and The Alien Cortex

The Evolution of Human Language, Thought and Civilization

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# Introduction

Language is one of humanity's most astonishing evolutionary achievements, yet it remains one of our deepest mysteries. **What exactly is language? Why did we develop it, and how has it shaped everything that we call human civilization?** To answer these profound questions, we need to delve far beyond mere linguistics into the intricate workings of the human brain. Specifically, we must explore the concept of what I call **the "Alien Cortex"—the latest evolutionary addition to our brains**, which is responsible for our ability to speak, to reason, and to transform our environments in ways no other species ever has.

The Alien Cortex isn't merely a poetic metaphor; it is an entirely new cognitive apparatus that evolved atop our older, mammalian brain structures. Its emergence marked a radical departure from simpler, more direct animal communication. Suddenly, humanity possessed the ability not only to react to the world instinctively but also to interpret, reshape, and even dominate it through symbolic thought. The Alien Cortex allowed us to dream, to conceptualize the future, to codify complex laws and systems, and inevitably to build the civilizations we see around us today.

Throughout this book, I explore how this remarkable cognitive layer came to be, what evolutionary pressures shaped it, and why it fundamentally altered the human experience. The journey takes us from ancient African savannas, where hand gestures and vocalizations first intertwined, to contemporary debates on language theory and neuroscience. We investigate how our brain's hemispheres developed specialized roles, with the left hemisphere becoming the stronghold of logic, language, and linear reasoning, while the right hemisphere maintained a reservoir of creativity, intuition, and emotional intelligence. Each hemisphere, dominated or influenced by the Alien Cortex to differing degrees, holds distinct powers—revealing profound truths about how we communicate and understand each other.

We delve into the origins of language itself, examining the surprising connection between gestures used in hunting and warfare and the intricate syntax that eventually evolved. I argue that what we perceive as digital communication—linear, logical, and precise—has its roots in these primal gestures, commands, and signals. Simultaneously, our vocal abilities developed from deeply emotional, musical expressions around Paleolithic campfires, reflecting our primal urges to bond socially, to console each other, and to attract mates. Thus, the Alien Cortex's language faculties emerged as a fusion of digital clarity and analog emotion, creating a uniquely human mode of interaction that far exceeds simple communication.

Yet, our journey doesn't stop at language alone. This book also confronts critical philosophical questions. **Why does our species, equipped with this extraordinary cognitive device, struggle so profoundly with conflict, misunderstanding, and division?** Here we find echoes of the mythic Tower of Babel—not simply a story of language confusion, but an allegory for the paradoxical power of communication to both unify and isolate. We examine cultures that challenge our assumptions about language and cognition, particularly the Pirahã people of the Amazon, whose straightforward, recursive-free language brings into question long-held theories about linguistic universality and cognition.

Moreover, we reflect upon the social and emotional ramifications of the Alien Cortex's dominance. **Is it possible that our advanced cognitive abilities, while driving technological and cultural progress, simultaneously alienate us from simpler pleasures and direct human connection?** The evidence from certain indigenous societies suggests this may indeed

be the case, pointing to a crucial insight: perhaps our great cognitive gift carries hidden costs—alienation, anxiety, even existential dissatisfaction.

**Ultimately, this book is an invitation to rediscover what it means to be human in the truest sense.** It is a quest to understand not only how language evolved, but why. It challenges readers to reconsider deeply ingrained assumptions about intelligence, evolution, culture, and happiness. By the end, we may recognize that to fully appreciate the power of our Alien Cortex, we must also become aware of its limitations. Only then can we begin the work of harmonizing our extraordinary intellectual capacities with the deeper, instinctual wisdom of the older brain layers that lie beneath, offering a potential pathway toward **greater individual happiness and collective harmony.**

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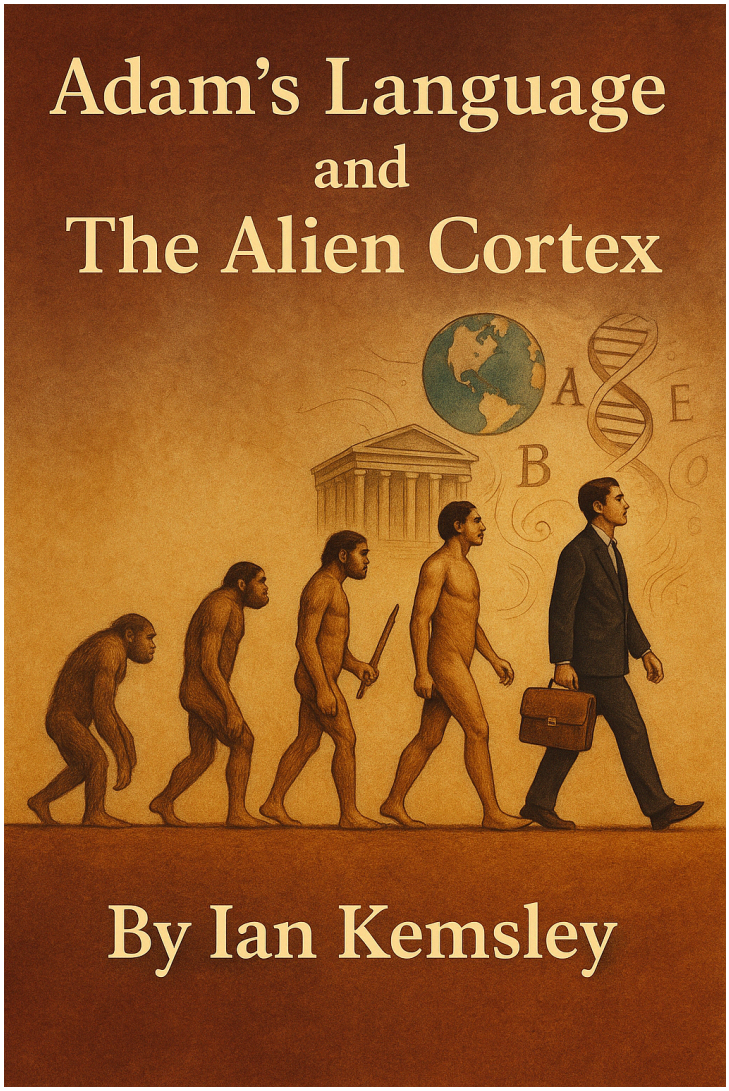

# **Chapter 1:** Adam's Language

> And out of the ground the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof.
>
> And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field; but for Adam there was not found an help meet for him.
>
> And the Lord God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof;
>
> And the rib, which the Lord God had taken from man, made he a woman, and brought her unto the man.
>
> And Adam said, This is now bone of my bones, and flesh of my flesh: she shall be called Woman, because she was taken out of Man.
>
> - Genesis 2:19-23

The Bible doesn't really say what language Adam spoke, or how he learned to speak. Apparently he had the necessary laryngeal equipment (Adam's apple) from the outset, so language was innate to him.

Genesis says that, "the whole earth was of one language, and of one speech." The narrative of the Tower of Babel (which, contrary to what most people think, actually existed, and has been found by archeologists) explains how people came to speak different languages. To punish mankind for the arrogance of trying to build a city and a tower tall enough to reach heaven, God supposedly confounded people's speech and scattered them around the world. One can only imagine how memorably confusing that morning was!

"Babel" supposedly comes from the Hebrew word to "confuse" or "jumble". I wonder where the dividing lines happened to be. Did families wake up to find father was suddenly speaking Uzbek and mother was speaking Swahili at the breakfast table?

The Bible focuses on how language divides us, but clearly it serves like few other things to divide *and* unite us.

> "Meanwhile, the poor Babel fish, by effectively removing all barriers to communication between different races and cultures, has caused more and bloodier wars than anything else in the history of creation."
>
> - Douglas Adams, *The Hitchhiker's Guide to the Galaxy*

We tend to think of everyone that doesn't speak our language as a barbarian. The word "barbarian" itself comes from the word Ancient Greek speakers used to describe people who didn't speak Greek. It's supposed to be a parody of someone speaking a foreign language: "bar-bar-bar-bar".

By that measure, pet dogs must think their owners are mostly barbarians except for the rare times when the dog's name is mentioned amongst all the bar-bar.

How did language come to unite and divide us? How did it evolve in our alien cortexes?

Some alien cortexes have claimed that, "without language, there could be no thought". It's true that without language we couldn't think like an alien cortex, but since there are examples of deaf students spontaneously developing their own sign languages without language models, language is obviously just a particular mode of thinking, rather than thinking itself. Or at least, that's what I think, and I was always told by alien cortexes to "mean what you say and say what you mean" (i.e. they are relentlessly self-reinforcing).

So if we don't need language to think, or even communicate, and it divides us as easily as it unites us, what's it really for?

The centuries-old quest for how and why language came about has been so fruitless that, in 1866, the Paris Linguistic Society banned any discussion of the subject in its bylaws. Since there is so little empirical evidence to support the copious number of theories about the issue, scholars generally regard the whole topic as unsuitable for serious study. But that didn't stop Noam Chomsky theorizing that roughly 90,000 years ago, language must have burst on the scene in one exceedingly odd individual due to a single random genetic mutation. This is called the "single step" theory of language.

Chomsky's idea coincides roughly with a theory in human evolution and cultural anthropology sometimes called the "Cognitive Revolution" – not to be confused with the "Cognitive Revolution" in psychology during the 1950s.

Some scholars think that modern human behavior (i.e. alien cortex-dominated behavior, which they call "behavioral modernity") happened because of genetic changes 40,000–50,000 years ago. These changes were characterized by a revolution in abstract thinking, long-term planning, symbolic behavior, art, music and dance.

Or so they think.

Chomsky calls that first language-mutated individual *Prometheus* rather than Adam. Since language is a two-way street, one is forced to wonder who Prometheus talked

to, or why such a freakish mutation conferred any evolutionary advantage on the first oddball who acquired it. Far from being a “catch”, I can’t help imagining that even if he didn’t spend all his days rambling to himself like the common street schizoid, the young Prometheus must have been a bit of an outcast. He surely would have seemed like a barbarian to the rest of his tribe in that true sense of the word “barbarian”.

I think it’s too misogynistic to even begin to speculate much about the possibility that this first language-freak might have been a woman. Though it may be worth pointing out to Chomsky that research seems to indicate that prenatal testosterone delays the development of language in boys, and may lead to autism and Asperger’s syndrome later.

At least four times as many males as females develop autistic disorders and for Asperger's syndrome the ratio is nine to one. So it’s not too much of a stretch to assume that if the “single step” theory is correct, then Chomsky’s *Prometheus* is more likely to be a *Pandora*.

So what exactly was Pandora’s unique genetic mutation? And how did that mutation become fixed in her?

FOXP2 is often called the “language gene.” Any mutations in FOXP2 cause severe speech and language disorders. Such mutations lead to verbal dyspraxia – a condition of the brain that causes problems in planning movements of the lips, tongue and jaw to produce speech. Children with developmental verbal dyspraxia have trouble saying sounds, syllables and words.

So is FOXP2 Pandora’s crucial “single step” mutation?

The problem is that FOXP2 is found in many vertebrates apart from humans. It’s not only implicated in speech and language in humans, its also important in birdsong and echolocation in bats. The problem for Chomsky’s theory is that a whole medley of genes is responsible for language development in humans. The so-called “language gene” was also dethroned by the fact that a genetic study in 2018 showed that there was no evidence for recent positive selection of FOXP2 genes among diverse human populations (i.e. there was no evidence that it was driven to be “fixed”, so according to Darwinian thinking, it confers no “evolutionary advantage”). With so many genes involved, it's well nigh impossible that humans gained language in a single step.

I think what’s more likely is that humans developed a “linguistic package”.
The linguistic package is more or less all the aspects usually attributed to the Hindu goddess Saraswati – knowledge, music, art, wisdom, mathematics, and speech etc. – basically all things cerebral and highbrow in humans.

What makes more sense biologically speaking, is the gradual evolution of this whole package, rather than a single big event as some linguists like to think. The Cognitive Revolution is a myth

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Asking the question “how did language come about?” muddies the waters, the same way that asking, “how did the fuel carburetor come about?” without referring to the rest of the internal combustion engine. Describe how the gasoline engine came about, and the carburetor is a given. In the same way, language is peripheral to a whole ensemble of cognitive changes in humans.

The important thing to note is that the linguistic package comes part and parcel with the evolutionary development of the alien cortex. They are virtually inseparable. Theories about the origins of language run into Babel-like confusion because they are usually conflating two different things: *the evolution of left-brain or digital communication and the simultaneous evolution of right-brain or analog communication.* Having said this, straight away we are liable to run headlong into a wall of fierce opposition because most neurologists and clinicians think that the left-right brain divide is popular pseudoscientific nonsense and has no merit whatsoever.

All I can say is that in this instance the general public is more correct than the experts. There is a blind spot with neurologists when it comes to the amazing “split brain” experiments done by Michael Gazzaniga and Roger W. Sperry. I think if they were more familiar with them they wouldn’t be so prejudiced and quick to shy away from the public’s popular perception of each half of the human brain behaving differently. It’s true that it’s a myth that our left-brains are logical and rational and our right-brains are artsy and intuitive, but it’s also a myth that our left and right brain hemispheres do not behave differently.

Personally, for want of one isolated example, I’ve noticed that it’s possible to improve some people’s drawing ability tenfold in under ten minutes by simply telling them that they are using the wrong brain hemisphere to draw. When asked to draw something on paper, for example a grove of trees, many non-artists will draw abstract symbolic representations of trees (lollipop trees) that split-brain experiments seem to indicate come from their left brain hemisphere. If you ask them to think of the trees simply as shapes (especially the negative space between the branches), and use their right brain hemisphere to draw them, the improvement in the quality of their sketches often astounds them. The same is true with people that draw stick figures versus human outlines.

What seems to have happened is that after the left-right brain divide was popularized in the 1960s and 70s, there was a backlash amongst neuroscientists and psychologists who said (mostly, but not entirely correctly) that neither brain hemisphere operates independently; they work together. In trying to show that the hemispheres work as a seamless whole, scientists seem to have thrown the baby out with the bathwater.

Because students are now taught that the public’s belief that humanity is divided into two fundamental categories of left-brain logical and analytical thinkers and right-brained intuitive and creative artists is complete nonsense, they are blocked from

a crucial insight into what the human brain is actually doing, and how different modes of operation in our left and right brain hemispheres contributed to the evolution of language.

This is how I would describe it using the Layered Brain Model.

The alien cortex operates in both halves of the brain, but it is much more active in the left-brain hemisphere (hence the popular notion that the left-brain is rational, reductionist, analytical and logical). Why the right brain appears more intuitive, creative, colorful and artistic is because it has more of our ancient, pre-alien cortex "showing through" as it where in the right hemisphere. The same right-brain structure (the four earlier brain layers) is in the left-brain hemisphere, but it's being inhibited or suppressed by the alien cortex on that flank. By the same token, the alien cortex is also in the right-brain, but it it's not as active as it is on the left side, so right brain behaviors seem more colorful, less rational, less rational, less inhibited and less lingual.

In split-brain experiments, the broad band of nerve fibers called the corpus callosum, which joins the two hemispheres of the brain, is surgically cut. Most of the signals going through the corpus callosum are for suppression – most fibers connecting the two hemispheres are inhibitory in function. Like any authoritarian executive, most of our alien cortex's job is simply to say, "No!" or "Thou shalt not!" In our frontal lobes, about 35% of the brain function is for impulse control. The alien cortex inhibits us from behaving instinctively (i.e. reacting from our older brain layers).

Colloquially, the right hemisphere seems to have more "soul", while the left appears dry and austere – it's a buzz kill. The primary difference between the two is that the alien cortex can be considered more characteristic of "digital" (discrete, procedural or stepwise) operation whereas the older brain, (and hence right-hemisphere) resembles "analog" (continuous or smooth) operation.

The reason for that is that the left-hemisphere is cross-wired to the right hand and foot - the appendages that evolved to become more "digital". The phalange bones in our fingers and toes are appropriately called "digital bones". In most people, the right limbs (i.e. left brain hemisphere) dominate.

It's revealing that the word "digit" comes from the Latin *digitus* – the same word used for "numeral below ten" and for "finger or toe." Even more interesting is the secondary meaning in related Latin words like *dicere*, which means "to say" or "to speak".

Our first clue to the digital communication part of the human language package is that the root of "digit" is the Proto-Indo-European (PIE) "*deik-", which means "to show," and also to "pronounce solemnly". Clearly, the PIE root evokes the impression of a pedantic bore (alien cortex, or complete dick?) lecturing ad-nauseam with raised index finger (index digit). But perhaps that's only how it appears to our right hemispheres.

Research since the 1970s has shown the importance of “joint attention” or the “observational triangle” between a mother and infant for many aspects of language development. Episodes of joint attention allow children to associate words with objects and are crucial for the development of language and normal human relations. The observational triangle between mother, child and object, is usually established by gaze or by pointing with a finger – usually the right index finger.

When anthropologists decode a language for the first time, they usually start by doing the mother-child process in reverse. They point to objects and the native speaker responds with the word. The anthropologist then creates a catalog of nouns, and then using the nouns they move on to decipher verbs. Note that the dictionary they compile requires an “index”, and the word “dictionary” comes from the Latin *dictio* ("a saying or expression") which is also from the stem *dicere* or the PIE “*deik-“.

I’m not sure if the Afrikaans word *kyk* (“look”, from the Dutch *kijken*) is from the same PIE root, but I wouldn’t be surprised, because it’s closely related to the Old English word *keek*, which means to look or peep.

One might easily guess that pointing at something, or holding the index finger erect as a warning, or against the lips to signal a demand for silence, might be one of first inter-human signals or communication gestures.

Many people have speculated that language originally arose from signs and gestures, including Darwin.

> I cannot doubt that language owes its origin to the imitation and modification, aided by signs and gestures, of various natural sounds, the voices of other animals, and man's own instinctive cries.
>
> — Charles Darwin, 1871. *The Descent of Man, and Selection in Relation to Sex*

For argument’s sake, let’s lump linguistics, syntax, semantics, and grammar together and call them “digital language”. But let’s hold off from including phonetics and vocalizations for a while.

If language, or at least what we are calling “digital language”, started from gestures, then it’s likely that it’s something to do with mirror neurons. That’s probably the key to its reciprocal interactivity. We all have mirror neurons. That’s why Pandora didn’t have to sit in a corner talking to herself. That’s why language is usually a two way street instead of just a one-way cul-de-sac (for example just a stream of dictates from master to slave).

Mirror neurons have been found mainly in the motor areas of the brain in primates and some birds. Neurologists are not really sure why, but merely observing an action

in one individual provokes a sympathetic reaction in the observer's brain, as if they were doing the action themselves.

It's probable that such a "monkey-see, monkey-do" circuit in the alien cortex was repurposed for the human digital or gestural "language circuit". Speak slowly and carefully and you may notice people that listen to you are silently mouthing the words you are speaking themselves, without realizing it. That's because of mirror neurons.

In cognitive psychology, "Common coding theory" claims that perceptions (e.g. of things we can see and hear) are linked to our motor representations (e.g. of hand actions). Roger Sperry (of the Gazzinga and Sperry split-brain experiments, which he got a Nobel Prize for) argued that this perception-action cycle is the fundamental logic of the nervous system. Common coding theory claims that there is a common neural code for both perception and action. I would guess that's a digital code – and by that I mean a discrete (digital) as opposed to continuous (analog) code or communication signal.

It's reasonable to assume that verbal vocalizations originally come from singing – a continuous and therefore analog activity. Singing itself is probably an extension of that most mammalian of all things, the lacrimal apparatus. It's probably an enforced crying reaction expressing various levels of sincerity for emotions of anger, happiness and sadness. To this day, if a singer's bravura performance includes tears, the audience response is usually positive and gushy. They find it "moving", because it emotes a sympathetic reaction in our mammalian brains. In Mel Brook's *History of the World, Part I*, there is a scene about the invention of music. A caveman accidentally drops a stone on his colleague's foot, who then howls in agony. The narrator says, "Music began long before it was formalized into notes and phrases. For mankind it began with an accident. Unga heard the sound and liked it."

Many a word of truth spoken in jest!

Obviously that's not quite how singing started, but it's worth noting that if you ignore a toddler throwing a tantrum or crying for long enough they will often turn their display into something resembling a self-absorbed proto-singing. Something similar can happen when mourners revert to a childlike state during bereavement – a lament.

Singing is mostly continuous (i.e. uninterrupted or analog). I think speech, or spoken language, probably came about when digital encoding in the form of gesture and signaling was superimposed on singing. One could easily joke that in some cultures, like Italian and Romance languages for example, the overlap is still strong and often comically visible.

In 2010, there was an Internet meme floating around called "Mr. Trololo Man". If you wanted to flame someone for being an Internet troll on social media, you posted a link

to a video of a Russian man singing a lengthy song without lyrics. He appears to be communicating a lot of information, but in fact the song is non-lexical and just a famous Soviet-Russian baritone singer, called Eduard Khil, going “trololo-lo lo” in a very expressive way while saying nothing at all. The video, which went viral, was sometimes referred to as the “Russian Rickroll”.

The interesting back-story to the song was that Eduard Khil had a disagreement with his lyricist Lev Oshanin, who said that lyrics are the most important thing in a song and that a composer is nothing without a lyricist. Apparently, during the argument Khil told him, "Well, I don't need your verses at all, I'll manage without them." And he went on to create a hit without lyrics.

I think what Khil was leaning on is that the right-brain hemisphere is abundantly capable of communicating emotions without verbiage using only vocalizations. And it probably did that either before, or simultaneously with, the development of digital language. They evolved in tandem to create language. Music and singing, although much neglected in our hyper-STEM culture today, was the other half of the “language package”.

A hundred thousand years or so ago in Africa, I imagine two forms of complementary communication co-evolving. Communication of emotion originally came naturally from mammalian-brained-tears and spontaneous cries of pain, whoops of joy and laughter, grunts of annoyance etc. But round the campfires they were conjured up artificially and formalized as ritual singing, performance art and dance – ritual evocations of emotions from memory. I see it as a kind of tribal catharsis that eventually became Ancient Greek theatre and other stage forms right up until Hollywood movies and computer games. Today, the almost obligatory musical score in movies is there to provide emotional cues to the audience. Song adds the emotional sauce to an alien cortex’s story. The other four brain layers back up the narrative with color and emotion.

The point of performance art is that it’s a time machine for the alien cortex. It’s how the alien cortex tells fictions for the benefit of a group. Reliving the performance of how Ooga got injured during the hunt round the campfire afterwards is a kind of psychic healing for everyone in the tribe and it can be done without words – just with a little tickling of the mirror neurons through mime and gesture. That’s what Mr. Trololo Man was doing. That’s how every anthropologist or explorer has usually got along fine when they meet a foreign tribe.

Mime and theatre around the campfire is even more essential when it comes to emotional therapy and for achieving reconciliation and closure for shared trauma, fatalities in battle or hunting etc. Everyone in the tribe knows the gesture for Great Chief Big Nose when his fond memory is invoked after his tragic passing. Mimicry and parody around the campfire are also non-confrontational ways of defusing social tensions and cutting down the tall poppies – reducing potential authoritarians down to size and keeping the group egalitarian. Switch on late night TV today and you’ll see

that the tradition continues unabated.

But none of that requires syntax, linguistics or semantics. Marcel Marceau can do it with ease. So where does digital communication come from?

I would argue that digital or left-brain communication comes from warfare and the hunt.

It's a standard trope in Hollywood (and real life) that forward scouts, SWAT teams and infantry troops in battle use gestures and visual hand signals to communicate silently with each other.

> Efficient combat operations depend on clear, accurate, and secure communication among ground units, Army aviation, and supporting Air Force elements. Control and coordination are achieved by the most rapid means of communication available between soldiers and units. When electrical and/or digital means of communication are inadequate, or not available, a station-to-station system of visual communication is an alternate means for transmitting orders, information, or requests for aid or support.
>
> - Department of the Army, *Training Circular on Visual Signals*, 2017

European's oldest and most distant living cousins are the !Kung People in Africa.The !Kung population (referred to collectively as Khoisan) have been hunting and gathering continuously in southern Africa for well over 150,000 years. Up until they were devastated by the Alien Cortex Revolution 20,000 years ago, they were the most populous, sustainable and successful human populations on Earth. While fire and their hunting habits probably gave genesis to the alien cortex, the alien cortex eventually turned round and started hunting them. The last state-sanctioned license to legally hunt Khoisan was issued in Namibia as late as 1936. Khoisan hunters communicate using a large lexicon of hand signals without speaking a word, just like any US Marine does today in a forward battle position.

Although Khoisan society is fiercely egalitarian, just as in a military unit, the hunter's hand signals function as imperatives. They are usually commands to direct fellow hunting partners. They are dictates ("dictate" being from our old friend *dicere* "to say, or to speak" from the PIE root "*deik-" again).

It may be coincidence that the Army field manual gesture for "enemy in sight" is exactly the same as Khoisan hunter's gesture to indicate the location of game, but it's probably not a stretch to conclude that in principle, the military gestures of today trace an unbroken heritage right back the habits of our pre-linguistic relatives during the raid or the hunt.

What's interesting is that without too much imagination, one can see the birth of semiotic representations and symbolic substitution in the Khoisan's gestural, or

digital, banters. They use standardized hand gestures to communicate the identity of game by reproducing salient animal features such as horns, tusks, ears, and tails. Holding both hands with palms spread is used to indicate the iconic, flat-topped acacia tree.

Tellingly, the !Xõ tribe frequently use hand shapes based on the contours of an animal's spoor. Such use of semiotics borders on using glyphs for typographic writing.

Analysis of the Khoisan's hunting communication system reveals that it has the embryonic beginning of a basic syntax.

What I'm suggesting here is that communication using hand signals (or digits) is inextricably bound to hunting and warfare, and a whole style and mode of thinking that shapes our left brain-hemisphere. Eventually it finds expression in the digital computer, engineering, numeracy, mathematics, cybernetics, writing, linguistics, grammar, encryption, logic, legal systems and the STEM fields. It's no coincidence that computers use digital rather than analog signals, and that the Internet was originally developed by DARPA for use by the military.

A latter-day romantic novel aside, script has always originally qualified as being a weapon. It's notable that the very first examples of writing systems (Mesopotamian cuneiform) are contracts. They are attempts to bind people's "future selves" and hold them hostage to a verbal deal made in the past.

But it's all only just one half of the language package. It's the *martial* part. The word "martial" comes from *Mars*, the Roman god of agriculture and war. His Greek counterpart is Ares (the ram, with all its astrological associations with war, chaos, destruction and the March – or Mars – equinox). The spear and the shield symbolize Mars. The same spear and shield symbol used to represent the planet Mars is used as the symbol for the male gender. The whole subject is virtually dripping with testosterone.

Although the traditional anthropological view of man as the sole hunter is questioned in these modern (i.e. alien cortex) times of relentless Feminist historical revisionism, the evidence shows that women's role in hunting, if there is one at all, has been pretty restricted. It's safe to assume that hunting and war has always been a realm filled with traditional macho hormones of the battle-tank, the casino, the racecar, the stock market, the boxing ring, the circus arena, and the locker-room – primarily testosterone, adrenaline, norepinephrine, cortisol and dopamine. These drivers are the signals from adrenal cortex, the basal ganglia and the rest of the reptilian brain.

Although it will get liberal academic's left-hemispheres and reptilian brains aroused to near apoplexy to say it, these are the signature neurotransmitters of the left-brain alien cortex in an unholy alliance with the reptilian brain. Think of it like a computer strapped to the back of a T-Rex. In the dense fog of psychopathology involved here,

it's difficult to tell which one is actually in charge. But if so, where does Mars' sweet and fair consort Venus (or Ares' lover, Aphrodite) come into the picture as far as language is concerned?

I think her story picks up again from around the nighttime Paleolithic campfire after the day's hunting is done.

Part of the social bonding ritual around the campfire consists of collective singing, dancing, clapping and rhythm. I would guess that's where vocalization and spoken language come from. It's the analog half that completes our language package. Chimps and bonobos don't vocalize very well (and a lot of women would say their male human spouses and sons don't either). Kanzi is a captive male bonobo who uses an iPad to speak and exhibits advanced linguistic aptitude. In one anecdote, while out on a walk in the woods, Kanzi is reputed to have indicated the symbols for "fire" and "marshmallow". Once given matches and marshmallows, the bonobo snapped off twigs, lit them and roasted the marshmallows on a stick. Kanzi then used the iPad to call an Uber taxi, charged the ride to the researchers and took off for Vegas.

Well, maybe that last bit is not true, but apparently the part about roasting the marshmallows is.

Like other non-human primates, Kanzi has the language circuits in the brain for gesture and facial expressions, but isn't very good at using his voice. Non-human primates have different vocal tracts to humans, and so they cannot produce the sounds that humans produce with ease. Our larynxes allow us to speak and sing because a gene called NFIX is switched off, or at least made less active, due to methylation; the epi-genetic process that inhibits the expression of genes. Because NFIX is muted in modern humans, we have a flatter face and squarer larynx than our ancestors.

Since our jaw protrudes less, and our larynx is more balanced, we have an enhanced ability to vocalize and harmonize rather than just grunt and shriek. But what drove our evolution in that direction?

As I've said, it's likely that one path came from the hunt. Khoisan hunters sometimes command attention through whistles, clicks and bird-like chatter. Although the picture is more complex now, Khoisan languages used to be grouped into a single "click language" family that was set apart from other African languages. It's noticeable (at least to me) that the clicks in the language closely mimic the running sound of their prey's hooves. That might not just be a random coincidence.

Although now largely discredited, a popular theory on the origins of language is that it was onomatopoeic. A noted philologist of the 19th Century, Max Müller, proposed the "Bow-wow" theory of the origins of language, suggesting that the first human languages developed as imitations of the natural sounds, similar to the way that

toddlers learn to name dogs by associating them with the sound they make. My (human) son first called all snakes and reptiles "Ni" and only switched to their conventional names when he was four or five. I think that's because his first encounter with the concept of a reptile was as a baby, when someone tickled him with a stuffed snake toy going "Ni, Ni, Ni". For him, the association stuck. So there must at least be a grain of truth to Müller's idea.

Other theories for the origins of language that Müller had are called the "Ding-dong" theory, the "Yo-he-ho" theory, the "Ta-ta" theory and the "Pooh-pooh" theory, which gives you some idea of how fed up linguists were with all these "Just-so" stories by that stage.

The fact remains that many words in all languages are onomatopoeic. For example, the ancient Egyptian word for cat was *mau* ("meow").

There is a forested area near the Umkomazi River in South Africa called *Ixopo*. The "x" in the word is pronounced with a click. The terrain there is wet and muddy and so Africans named the town after the sound of a cow's hoof being withdrawn from sticky mud. It's amusing, because when you pronounce Ixopo correctly, that's exactly the sound you will often hear many times a day as the cattle are driven though the sodden fields.

When Julie Andrews sings "Doe: a deer, a female deer" in *The Sound of Music*, she's alluding to the first solfège syllable, *do*. But it turns out that alluding to the female deer, or "doe", is actually onomatopoeic. It's mimicking the frosty breath of a reindeer (rather than a deer) in the frozen forests that once covered most of Northern Europe. But the onomatopoeic name ancient European hunters once used for their prey stuck. At least as far as the English name for a female deer goes. If you ever come across reindeer in the snow, perhaps panting from pulling Santa's sleigh, watch them and you will soon see where the "doe" (or *doh!*) came from.

So at least some vocalizations must have come from the hunt and the war party. My guess is that speech arises when digital communication and gesture, designed to communicate formal information, is superimposed onto music and singing, or the analog or continuous vocalizations designed to evoke emotions.

The semiotic and gestural language of the hunt bleeds easily into dancing round the campfire because the campfire is often a celebration of the hunt (or the anticipation of the war party). The Nharo tribe of the Khoisan use their fingers placed above the head to denote the Eland signal from the hunt when they perform the "Eland Bull Dance" round the campfire.

There is another example of where the digital and analog forms of communication overlap in the example of the "talking drums".

Europeans first came across the talking drums in the first half of the 18$^{th}$ Century.

Africans used the drums to relay complex and information-dense messages between villages up to about five miles away. Even with pigeon post, horse messengers, beacons, flag semaphores, cannon shots or smoke signals, European communication technology couldn't match the talking drums for speed over such distances until hundreds of years later when the electric telegraph was invented (and even then, that was point-to-point communication, whereas the talking drums were broadcast technology). Observers were mystified as to how the drums worked, and Africans were presumably reluctant to share their secret.

Even though a drum beat is inherently discontinuous, if you analyzed the talking drums as a kind of semaphore (i.e. digital signal) it was impossible to decipher. It was only in the 19th Century that a missionary called Roger T. Clarke finally solved the mystery. He suddenly realized that the drums were mimicking the human voice.

What made it difficult for English speakers to decipher is that English is atonal. The tone or emotional content of English has been entirely wrung out of the language by the alien cortex. African languages are mostly tonal, and so the talking drums relied on nuances beyond what most English people could hear.

Alien cortex-heavy English speakers can drone on in an unemotional monotone that is capable of putting an audience into a mild coma, and they often do (Chomsky not excluded). One such alien cortex, the unprosecuted alleged war criminal Henry Kissinger, supposedly weaponized this feature of the English language and used it as a devious political tactic. Ever the cloak and dagger man, apparently he would deliberately mumble along in lengthy monologues during meetings with the sole intention of putting his audience to sleep.

Like Kaa the Python, once he was sure he had lulled his soporific audience to the point of just about nodding off, he would suddenly slip some vital information into the conversation, which without the verbal anesthetic would have been highly politically explosive. Done right, no one batted so much as an eyelid, but that way he managed to sneak things into the record that might later come back to bite his listeners. This also gave him the protection of plausible deniability and no one could accuse him of concealing information later.

I doubt he was the first to use the atonal and unemotional quality of English in this way. For example, some would argue that Britain built a global empire on little more than long-winded bluster.

On the other hand, political comedian and activist George Carlin did the exact opposite. He said that in order to get an audience emotionally riled up and retaining his message he employed a deliberate rhythm – "da-da da-da da-da, pom-pom". He was using emotion to get past the defenses in the audience's alien cortexes in order to pass a message to the older brain layers. Carlin's rhythm bypassed the censorship of the alien cortex to rile up the older brain layers against it. Kissinger, doing the reverse, was suppressing or sedating emotion (the non-alien cortex layers) in order to get away

with his intellectual machinations and dirty tricks.

Although it's by no means certain, I would argue that tonal languages are designed to preserve or enhance the emotional content of the message – the opposite of what alien cortexes usually prefer. By ruling out the emotional volatility, the alien cortex can usually command authority and dominate (its primary imperative) by masquerading as the heavyweight intellect or "adult in the room" (i.e. recruit the primate brain to respect it as the alpha male; making a display of censoring any monkey business in the room).

Plenty of research shows that when people choose leaders they have a strong bias towards candidates with a low-pitched voice. Most would-be leaders soon learn to exaggerate one for effect. Maggie Thatcher and Morgan Freeman are just two examples of people who owe their careers to early voice training to deepen their voices.

By lowering the pitch of their voices, I suspect what leaders are trying to say is, "look at me; I have all the serotonin in the room."

It's a self-fulfilling feedback mechanism, because the more serotonin (often called the "leadership hormone") you have, the more people accept your elevated social status and the more serotonin you get as a result.

Serotonin is not very egalitarian.

Since it lowers stress and gives confidence and a sense of self-esteem, it also reduces emotional content in speech and hence tends to make vocalization more atonal. The talking drummer's language was highly tonal, and they used the pitch of the drum to mimic the lilt and timbre of human speech (much like George Carlin). But the process was necessarily very verbose. Short words could be ambiguous, so extra phrases were added to clear up the meaning, making the phrasing about eight times as long as regular speech. Even with all the redundancy, it was a very effective way of sending messages.

To the human ear, the talking drums sounded like someone humming the message. Since the drumbeats are discreet or quantized in time (i.e. digital) and humming is continuous (i.e. analog), the two combined created a kind of speech due to something like "flicker fusion" (persistence of vision) which allows the optical illusion of a continuous movie from a series of still frames in a film. Except this was something like auditory "beat fusion" rather than visual "flicker fusion.".

I suspect that vocalized language is an analogous kind of fusion between singing and "hunter patter" or "warrior patter" – the former is the carrier wave, the latter is the modulator. If so, as I suggested, they were probably fused around the campfire at night.

But why?

I think the answer is very romantic – literally.

While the hunt is highly focused and tense, dancing round the campfire is unfocused and relaxed. Combining the digital and the analog is a kind of game, and the game is the game of love. Although the mere thought is enough to make Feminists cringe and Patriarchs sneer, it's how male hunters talked to female gatherers. Essentially, Tarzan grunts and Jane sings. In trying to bridge the communication gap, the resulting compromise is human speech (though perhaps still not much mutual understanding, given the poisoned gender relations exemplified by Feminism and Patriarchal society today).

> If music be the food of love, play on;
> Give me excess of it, that, surfeiting,
> The appetite may sicken, and so die.
>
> - William Shakespeare, *Twelfth Night*

In the current atmosphere of political correctness in our culture, anyone who claims a gender origin for anything whatsoever nowadays is skating on thin ice. The irony at the heart of the bitter gender wars of today is that (at least according to the side dominated by the alien cortex), gender is not supposed to exist outside of culture. Anticipating hostility against it, blame my insight on the fact that I've grown up seeing mainly African women (only sometimes men) synchronizing group activities or labor using song.

Anyone who has grown up in Africa has an archetypal image buried somewhere in their brain of a pair of African woman around a crucible, pounding maize in perfect unison using long poles or mortars, and singing while they work. The singing coordinates the exquisite timing of their beats so their mortars never collide. The scene evokes the iconic epitome of peace and harmony in Africa.

I think we should assume that sexual selection is driving the evolution of both analog and digital speech. On the one hand women are using singing, music, clapping and dance around the campfire as a sexual "come on" to the men folk – especially when the hunt is fruitful and times are good.

Christian prudery (alien cortex suppression) has made many indigenous people around the globe turn away from their cultural traditions of suggestive and erotic dance, but they still thrive in underground strip and dance clubs all over the modern world. The modern fad of "twerking" actually reached America as part of the old African Diaspora. From time immemorial African dancing has included a lot of highly eroticized jiggling of tits and ass.

> "Dancing: the vertical expression of a horizontal desire"

- George Bernard Shaw

Curiously, the Adowa funeral dance amongst the Asante people peaks at sundown, when the dancers turn their most erotic. I guess there must be a kind of synergy in not wasting a moment of time in replacing the dearly departed with another child! Darwin wrote in *The Descent of Man*, "I conclude that musical notes and rhythm were first acquired by the male or female progenitors of mankind for the sake of charming the opposite sex."

He saw that crooning and dancing could have been the early precursors to more complex communication and eventually to language.

It's easy to imagine that sexual selection (by females) is a strong evolutionary feedback mechanism for further developing elementary vocal skills. Woman dancers, even in a group ensemble, have no trouble furtively directing their erotic attention towards a single chosen male in a crowded audience. It only takes a surreptitious glance or two to communicate volumes to a lucky male onlooker.

Long before girls were throwing their panties up on stage in fits of Beatlemania, or fainting at the sight of Elvis thrusting his manly pelvis, solo male singers must have been trying to prove their worth to potential female suitors while they impatiently awaited the invention of the first balcony.

Every boy band soon discovers that the lead singer gets all the girls and Ringo banging away on drums at the back is pretty, "ya know … meh".

I think a fussy female can tell a lot about the health of a potential suitor's neural wiring from how good they are at crooning. It's hard for someone with faulty neural wiring to fake good singing. If you doubt it, you could always try this "forced-choice task" experiment. Set up a double blind lab test where fertile females rate males for attractiveness based solely on their recorded solo singing performances. If half the recordings come from random males in mental healthcare facilities, and the other half come from the general public, you will find females' preferences are biased towards the latter group.

As an added bonus, I would predict that there's a correlation between women's oxytocine levels and the amplitude of their ratings. Not only that, but the results would show a Pareto distribution – roughly 20% of the male singers would garner 80% of the female ratings. Oxytocine is the mammalian brain's signature hormone.

The female mammalian brain was preferentially selecting the nascent alien cortex and it was using vocalizations and eventually language to make its choices. To this day, males without good chat up lines are likely to leave singles bars alone. The only other ways to redeem themselves are either to rescue a girl from unwanted male attention, keep schtum and hope the gym sessions pay off, or take up the microphone and resort to the Karaoke machine.

As to digital communication, or hunter or warrior "patter", female sexual preferences are also driving evolution there. Even before the domestication of the dog, any Paleolithic African hunter must have known that he would have to sleep in the doghouse if he came home from the hunt empty handed.

The sexual rules and mores of the Industrial Revolution still dictate that if the male partner in a modern nuclear family doesn't "bring home the bacon" his female partner will punish him by withholding sex. The evolutionary bottleneck continues to this day, so any man that doesn't "make a killing in the city" pays for it by reducing his chances of having sex and passing on his genes. Wealth (or meat) means power and "power is the best aphrodisiac" – even for a tediously monotonous alien cortex like Henry Kissinger.

When wealth is scarce and centralized, as it is in crowded cities, then it pays to be good at cutthroat competition. Alien cortexes were never bred to be "nice". Underneath all the genteel veneer of civility, civilization is Machiavellian, not *nice*. But let's come back to that later.

For now, let's just establish that if hand-signals and better communication improved the success of the hunt, women unconsciously rewarded the hunter's growing alien cortex genes through payback in kind. So humans came to dominate the planet through singing and signing. That's how we really left our closest chimp cousins behind. And they were probably glad to see us depart (along with our incessant chatter and din).

What do chimps think of music?

Scientists have run experiments in the past to determine the musical preferences of primates. It turns out that chimps in a lab setting are very consistent in their preferences when given free choice to select the music they listen to. I hope it's no reflection on the type of people I hang out with, but when I've asked people to guess what kind of music they think chimps would prefer, by far the majority response between Blacks and Whites has been a tentative, "*Rap music*, perhaps?" Actually, given the option, they always pick *silence*.

They don't usually like any type of music, and if they can switch it off, they generally will. Since their brains are essentially truncated at Layer Four, they have no affinity for music or singing, and presumably it's about as annoying to them as the din of a jackhammer or a leaf blower is to us.

As to dancing, bonobos tend to interpret it as something like a Māori war dance and are usually very upset, interpreting dance moves as an aggressive display. Without volume control on their emotions, dancing is probably a bit of an overdose for them. It's only thanks to the fact that fire tamed us that we gained the ability to dance and sing round it. And it was a gradual process. There's no way it could have happened in

a “single step” as Chomsky believes.

Now having gotten this far, let’s try to explain the possible mechanics behind Chomsky’s other famous assertion that natural language is fundamentally “recursive”.

In the software programming profession (i.e. the alien cortex spilling out into its brainchild, the computer), “recursion” is used mainly to refer to self-reference or self-execution of code. At some point during the development of high-level computer languages, some clever dick realized that somewhere in the middle of a logical routine, nothing stopped the programmer calling the very same routine they were executing from inside its very own guts.

Alien cortexes being alien cortexes, programmers soon found that kind of thing irresistible. Nothing appeals to a software-programming alien cortex more than showing off to their colleagues in code. After all, it's a longstanding tradition that any *Dictionary of Computing Terms* usually humorously explains the term “loop” with a curt and concise “see ‘loop’”. If you work in some other profession or trade, you can thank your lucky stars you escaped such habitually insufferable cuteness.

Thus software recursion was born. And now millions of apps needlessly crash every day because programmers have failed to ensure that the recursive routines they are writing don’t disappear up their very own ass (programmatically speaking) by calling themselves over and over ad-infinitum until they accidentally “overflow the stack”. Trainee programmers are often introduced to the concept of software recursion by being told about the iconic “Droste effect”.

The Droste effect is an artistic device called *Mise en abyme* ("placed into abyss") where a copy of an image is placed into the image of itself. The effect gives the illusion that the object is between two mirrors, producing an infinite reproduction of itself through recursive reflection. The Droste effect is named after a brand of Dutch cocoa, which was packaged in a tin that featured a nun carrying a can of Droste on a tray. It’s basically a product placement ad featuring itself as the promoted product. Since the Droste tin had a nun carrying a can of Droste on it, the image had to contain the very same nun on the can she was carrying, and so on to infinity. Very amusing for an alien cortex (and giggle-worthy for a software programmer), but a bit nauseating if taken too far.

I believe the reason it gets a bit nauseating in excess is that if your alien cortex gets caught up in its own recursive loop, for example, considering recursions like the Droste effect too long, it signals to your fish brain (correctly) that something has gone seriously wrong in the upper brain layers. Since the symptoms match the neural effects of some poisons, your primal brain instinctively goes into retch-mode.

The emetic response is a natural safeguard our medulla oblongata evolved against toxins. I believe that if our older brains could vomit away our alien cortexes, they

would.

The Droste effect can be a danger signal to your inner-fish that the blood-brain barrier has been breached. In spite of the annoyance caused to your alien cortex, the social embarrassment to your primate brain, or the fact that your mammalian brain might have to clean up the mess, it's just safer all round for your body to assume its had one too many magic mushrooms and to just eject the contents of your stomach in defense.

It's around the time that programmers learn about the Droste effect and recursive programming techniques that many of them drop out of Computer Science class and find other careers. You'd be loopy not to, really.

In linguistics, Chomsky's recursion refers to how phrases may be continuously embedded in other phrases without limit. He claimed this was a fundamental property of language and it meant that the number of possible sentences, and hence language itself, was infinite.

The basic principle of linguistic recursion is much like the seed crop a farmer keeps over from the last harvest to become the germ of the next. The future becomes a magnification of a part.

This infinite possibility of continuously nesting or embedding phrases within phrases allows …

"I walked into the white house."

… to become…
"I walked quickly into the white house with a green door."

… and …

"I walked quickly, without turning around, into the white house with a green door, which was slightly ajar."

And so on.

Chomsky theorized that recursion is a fundamental cognitive property of language and a part of a human "universal grammar", which implies that it's a crucial part of the human brain and thought too. He claimed that we have evolved an innate "language-acquisition device" that is responsible for the rapid acquisition of language during childhood development.

I would agree, and call it the alien cortex.

Though I don't hold it in quite the same esteem as he does. This "device" not only

helps us quickly acquire language, but in later life it also helps us acquire whole planets. And then we destroy them. It's so alien to the rest of us I would compare it to the translucent jellyfish-like alien "Brain Slugs" that attached themselves to the left temple of the cartoon characters in many episodes of the brilliant animated sitcom, *Futurama*. In the show, anyone who was unfortunate enough to have one of those space-parasites latch onto their heads and take control of their brains spoke in a rather telling Kissinger-like monotone as a result. Although the Brain slug was in full control of its human host, its victims were still self-aware and cognizant of the parasite's presence, which one of the characters in *Futurama* referred to as a "nightmare".

Once again, many a word of truth is spoken in jest!

It's no wonder that during the mania for pre-frontal lobotomies in the 1950s, people lined up eager and willing to have them. Walter Freeman, who more than anyone was responsible for the craze, deserved the epithet "psycho-surgeon". He said he was merely "relieving the burden of consciousness" (i.e. "Roll up! Roll up! Get your Brain slug removed here!").

Luckily for the Brain slug victims in *Futurama*, all they had to do was to "act natural and switch to a garlic shampoo".

> FLB [broad faculty of language] includes a sensory-motor system, a conceptual-intentional system, and the computational mechanisms for recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements. We hypothesize that FLN [narrow faculty of language] only includes recursion and is the only uniquely human component of the faculty of language.
>
> - Noam Chomsky, Marc Hauser and Tecumseh Fitch, *The Faculty of Language*, journal *Science*, 2002

In other words, the alien cortex says the alien cortex is the only thing uniquely human. How could anyone possibly disagree with such a strong argument from a Brain slug? And what human organs would they use to disagree, other than an infinite regress of recursive Brain slugs on Brain slugs on Brain slugs?

In 2005, Daniel Everett published a paper in the journal *Current Anthropology*, arguing that the *Pirahã* People of the Amazon basin provided a counterexample of Chomsky's theory, casting it into doubt. Since Chomsky has the status of an idol for a broad swath of Ivy-league intellectuals, Everett's claim caused a furor of indignation in some circles. Because linguistics is one of the more speculative "soft" sciences, it's less fenced in than other fields of research, so Chomsky and his supporters have to suffer the indignity of having the hoi polloi routinely traipse all over their precious domain.

As you've seen from my text above, nothing stops any of the Great Unwashed freely speculating about language on an equal footing with the demigods of linguistics. So,

hypocrites to the last, they were quick to break with their own rules of engagement and reject Everett in a hail of ad hominem attacks as an attention-seeking, little upstart outcast. The spat has thrilled the public's primate brains for years.

Our inner-Nim Chimpsky naturally tends to root for Everett, the underdog, against the heavyweight Brain slug. We love to see the Alpha-male brought down a peg or two! Daniel Everett is an American linguist and one of only about three outsiders who speak the *Pirahã* language. He is also credited with being the first person to translate it.

Everett was a former missionary who tried to bring Jesus to the Pirahã people, but they wound up infecting him with a bad case of paganism instead. Their simple ways, immediacy and happiness converted him to the idea that it was not their souls that needed saving; it was ours. The way I would interpret the word "souls" is a reference to the older of our four brain layers. What our souls really need saving from is the fifth brain layer – our newly evolved alien Brain slug.

> You taught me language; and my profit on't
> Is, I know how to curse. The red plague rid you
> For learning me your language!
>
> - Caliban, in Shakespeare's *Tempest*.

Happiness and well-being researchers will tell you that the key to happiness in life is having low expectations. What they don't tell you is that the reason we have high expectations is because of our alien cortex. The Pirahã people have virtually no expectations. They live very much "in the now" and seem to actively shun any hint of the alien cortex. Up until recently, they have resisted any incursions of it into their lives.

They have no numbers and they have no need for them.

There are no abstract words for colors other than "light" or "dark". They have no writing. They don't even have words for "right" or "left" or "past" or "present". They don't point at things. At least not with the right index finger like our alien cortex does. Crucially, their society is very egalitarian and they instinctively shun competition. Although the Pirahã sing and dance, they have no musical instruments or art and as far as I know they have the same taste in music as chimps. The Hindu goddess Saraswati would feel just as out of place hanging out with them as Jesus.

But the Pirahã language is perfect for the talking drums, although they have no drums or musical instruments and little need to broadcast messages over long distances. Their language can be whistled, hummed, or encoded in music because meaning can easily be conveyed solely through variations in pitch, stress, and rhythm. Mothers teach babies to speak the language by repeatedly singing the same musical patterns. The Pirahã culture emphasizes concrete matters and eschews abstract notions or

hearsay. Rather annoyingly for a few theories in other academic fields, they have no creation myths or the concept of a deity. One of the reasons the people rejected Jesus was that when they learned that Everett had never actually met him in person, so they politely asked Everett to stop talking about his personal savior in the same way we might ask a blowhard to stop lying.

Think how lucky we would be today if the Ancient Greeks and Romans had received St. Paul's message that way! In 2012, a documentary called *The Grammar of Happiness* added fuel to the Everett Chomsky fire by telling Everett's story to a much wider audience. In the film, the man who taught Everett Pirahã says about his resistance to religious talk, "God is a foreigner. We don't know Him. We don't want Him."

In twenty-five years of trying, Daniel Everett failed in his mission to attract a single convert to Christianity. One could just as easily interpret their rejection of his message as, "The alien cortex is a foreigner. We don't know it. We don't want it."

The Pirahã call their own language "the straight one" and dismiss any other language with the pejorative of "crooked head" or "twisted head". Everett is quoted as saying, "They reject everything from outside their world. They just don't want it, and it's been that way since the day the Brazilians first found them in this jungle in the seventeen-hundreds."
Pirahã people seem to have no regret or worry. They are remarkably content and happy. They are often even described as the "happiest people on Earth". They seem to have achieved through culture what Walter Freeman failed to do by means of the surgical ice pick and butchery by psychosurgery.

*The Grammar of Happiness* was controversial, not because the Pirahã rejected religion, but because in it Everett rejected Chomsky's dogma that recursion is fundamental to having language. Attacking the foremost intellectual in the world for their pinnacle idea is where any pretentions at science end and the gloves come off. Saying that the Pirahã language is not recursive, or stands outside Chomsky's conception of a "universal grammar" buried deep in our genome, is tantamount to saying that either the Pirahã have no alien cortex (which, curiously, is denounced as unacceptable "racism", rather than a complement) or they have no need of one (an affront a thousand times worse).

What's ultimately at stake here is whether you need an alien cortex to qualify as human, or whether the alien cortex is just a parasitic Brain slug humans would be better off without. That's more than merely shaking a fist at Mount Olympus. That's outright sacrilegious. You may as well claim that the alien cortex itself does not exist, or does not need to exist. The alien cortex has burnt people at the stake for far less. The Chomsky-ites fought back with zealous fervor

It should come as no surprise that they did not fight fair. Brazilian linguists in the Chomsky camp wrote to FUNAI

(the governmental agency for protecting indigenous people's interests and culture in Brazil) claiming that Everett was conducting "racist research". During the filming of *The Grammar of Happiness*, the Brazilian government banned Everett from visiting the Pirahã and the ban will probably be for life.

It speaks volumes that this unhappy affair, and all the backstabbing and cutthroat competition amongst "civilized" academics is all to do with the "happiest people on Earth".

At the end of the documentary, the film crew returned to the Pirahã without Everett (allegedly paying their way in) to find that the Brazilian government has radically changed their lives in the last few years. No longer hunter-gatherers fiercely protected from the outside world by FUNAI, the government has given them diesel generators, electric lighting, flushing toilets, clinics and schools.

Previously strictly monolingual, Pirahã children are now given lessons in Portuguese, and they are taught past and future tense, and to count and name colors. If it hasn't happened already, the day when the first case of clinical depression ever diagnosed in a Pirahã person can't be far off. I imagine that the freshwater fish in that part of the Amazon will soon get their first ever taste of Paxil™ and Zoloft™ courtesy of the new sewage system. They'd better get used to it!

It all begs the question, "Is it really necessary to turn these people into us?" Especially when our global civilization looks to me to be just on the verge of collapsing anyway. How sad it will be if these people who have lived sustainably in the Amazon rainforest for 15,000 years or more (and could have potentially lived on indefinitely after we have gone), turn out to be boarding our doomed global industrial Titanic just at our eleventh hour.

As I write, in January 2022, the rainforest itself is being destroyed by Chomsky's "language-acquisition device" at the rate of about 18 million hectares a year – an area the size of England and Wales. Just minutes before I wrote this I read in a popular science magazine that the coronavirus pandemic is hitting Brazil hard, including regions of the country inhabited by indigenous communities, such as the Amazon, where mass graves have rapidly been dug. It's worth remembering that the disease could not have reached them without that icon of the modern industrial system, the passenger jet.

Researchers warn that, "Current deforestation is substantial and frightening: 17% across the entire Amazon basin and approaching 20% in the Brazilian Amazon." They claim that today we stand on the brink of a "tipping point". Further deforestation is about to change the local climate in the Amazon and make it much drier in a recursive runaway feedback loop. The drier it gets the more deforestation will result, and so on. As a result, large-scale fires and drought are expected to destabilize the Earth's entire weather system in a cascade of climatic dominoes that will probably make the last Pirahã curse us "twisted heads" loudly and recursively like Caliban, to their dying

breath (assuming some or other pandemic doesn't get to them first).
So how do we resolve the debate about recursion being a universal property of language?

Everett is at pains to point out that having a finite grammar does not mean the language itself is finite. Discourse amongst the Pirahã plainly shows recursion and embedding of ideas. In all languages, a sentence usually embodies a single idea or thought. It's just that for the Pirahã a sentence is atomic and their language does not allow them to split the atom. Chomsky simply hung his insight on the wrong peg.

When it comes down to it, Chomsky's idea is not very profound (and it turns out that it was Charles Sanders Peirce's idea anyway). As far as I can tell, his alien cortex just caught a fleeting glimpse of itself (Peirce's fairly unremarkable insight that the recursive application of basic signs gives rise to expression), and then made a big deal out of it. Let's unpack what he was observing so that we can get a deeper insight into how the alien cortex (and hence its language module) functions.

Hopefully, that will help us understand how, and perhaps why, Adam speaks. It seems to me that Chomsky and Peirce are dimly observing two fundamentals of how our evolutionary Brain slug works. The first is boxing or framing; the second is linking.

Have you ever noticed that you only ever seem to have one idea at a time? You might suddenly have a swarm of ideas, but you surely experience them in a very definite sequence, no matter how quickly they come. When the light bulb goes on your head, what's noticeable is that it is generally *just one light*.

Any idea you have may be complex and multifaceted, and it may take reams of paper or hours of dialogue for you to communicate it to someone else, and it may take years of thought building up to it, but when it comes, it comes with a bang, as a fully formed concept all at once. Even if it happens in a dream, it's experienced as a single spontaneous flash of genius – even a lackluster idea that it's time to get out of bed or language is recursive.

Einstein said about his *General Theory of Relativity*, "I was sitting in a chair in the patent office at Bern when all of a sudden a thought occurred to me. If a person falls freely, he will not feel his own weight." He later called it "the happiest thought in my life."

That single idea, which came to him in a flash, caused a revolution in Physics. It's interesting that, to our conscious minds, we only ever seem to have a train of single thoughts, one at a time. But clearly, under the covers, a lot more is going on in our brain than just that.

The 18th-century German philosopher Friedrich Schelling coined the term "unconscious mind" to describe all the many simultaneous thought processes and memory invocations going on behind the scenes which were not available to

introspection and outside our conscious awareness. Freud later popularized the concept of the “unconscious mind” with his Psychoanalytic theory, which attempted to delve down into that unconscious realm.

In computing terms, the bulk of our neural computations are happening in parallel (i.e. simultaneously) on multiple execution threads in the dark. Perhaps execution threads is a false analogy, because our oldest four brain layers act as neural nets, with ideas diffusing through them like blood coursing through a capillary network.

But when it comes to our alien cortex, it appears to be doing what in computing terms is called “single threaded execution”. While our unconscious minds seem to be more holistic and flooded with signals like water in a river delta, when the flood gets to Chomsky’s “language-acquisition device” it appears to enter a bottleneck and operate more like a ticke- tape machine, processing one idea at a time.

Sentences, symbols and ideas move through the alien cortex in a train much like the individual frames in a celluloid movie going through an old-fashioned projector. By way of another analogy, the magnetic tape of our thought stream seems to have only a single tape head or magnetic transducer, and the only thing in our consciousness seems to be what is passing (or “single-threading”) through that tape head at the time. Everything else seems to be just a distant backdrop of feelings and emotions backstage somewhere.

In the “theatre of the mind”, center stage is our alien cortex, and the single spotlight on it is our “consciousness”. That feeling we have of “being conscious” comes because the older four brain layers are in effect the alien cortex’s audience.

Like some avant-garde experimental (or perhaps *experiential*) theatre, the audience is also part of the performance. In his less well-read exposition of his Pulitzer Prize winning book *Gödel, Escher, Bach*, AI apostate Douglas Hofstadter described how he understood consciousness as something like a closed circuit television where the camera is filming its own viewing monitor (i.e. the Droste effect). Observing that our conscious minds are indelibly self-referential recursive systems, he declared of himself in his book of the same name: *I Am a Strange Loop*.

> In the end, we are self-perceiving, self-inventing, locked-in mirages that are little miracles of self-reference.
>
> — Douglas Hofstadter, 2007, *I Am a Strange Loop*.

I would wholeheartedly agree, adding that the screen (or maybe teleprompter or autocue?) is our alien cortex, and the camera is the other four brain-layers (and their connected sensing organs, which are not directly available to our alien cortex). But don’t get too carried away thinking that it’s some kind of command structure.

That's what the Alien cortex likes to think, but in reality the four other brain-layers are actually in charge. The chief executive Brain slug really just rubberstamps everything and then takes credit. It has all the imagination of a Vogon. Due to a kind of common idiosyncratic bigotry, some alien cortexes claim that all thoughts and ideation in the human animal are merely linguistic.

Without language, they claim, there would be no thought. Some even argue that there is no such thing as an "unconscious mind".
Leaving that aside, if you grant that language is being processed "in series" in the alien cortex, which includes Chomsky's "language module", we can hypothesize why ideas or signs come as singletons, and hence why language is recursive. The alien cortex seems to work in discrete and quite restricted Procrustean frames.

In 1956, George Miller wrote a classic paper titled, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*. In the 1950s, a number of experiments showed that most people could only retain about 5 to 9 items in their short-term memory. Some sources claim that based on that the Bell telephone company standardized telephones in the US to a seven-digit format, but that's probably apocryphal.

Subsequent psychological research confirms that short-term memory lasts for only about 15 to 30 seconds and has a limit of about seven items. Compare that to long-term memory, where the equivalent of vast libraries of information is stored in every human being and seems to generally be accessible in milliseconds! Researchers think that information stored in short-term memory is encoded primarily acoustically – even visual information seems to somehow be translated to acoustics in order for it to be stored.

Some neuroscientists have tried to account for why our short-term memory is so limited using mathematical models of how neurons fire. Although lay people normally imagine that brains function when some neurons fire while the majority of them remain dormant, what really happens is that the vast majority of the action is in neurons firing in order to *suppress others*.

A thought or idea is really what's left over in a tiny coalition of flickering neurons after the vast majority are actively inhibited. If neural activity were a democratic election, the tiny vocal minority would largely determine the result by disenfranchising the majority and actively suppressing their vote!

As we recall each word in a sentence, it causes clusters of brain cells in short-term memory to transition through a series of brain states. Models suggest that recalling seven items requires about 15 times the suppression effort needed to recall three. The feats of inhibitory power go up exponentially the more items recalled. Supposedly, recollection of more than about seven items exceeds the power limits of what a synapse finds biologically feasible.

I don't buy this theory for an instant. For one thing, why doesn't long-term memory suffer similar limitations? It also implies that the requisite information might be lying dormant in short-term memory, it's just not accessible without superhuman effort, which is very hard to believe. In short term memory tests, savants like Daniel Tammet are proficient at memorizing about 12 numbers (rather than the typical seven). I think it's highly unlikely that his synapses are twice as beefy as the average person's. What's more likely is that the magical number of seven (plus or minus two) is due to the way our brain is organized.

More recent tests have shown that the magic number of seven is more like around five. I think that's the clue. Put succinctly, short-term memory *is digita*l. What's happening under the covers is that our alien cortex is mapping the items memorized onto the digits of our dominant hand (usually the right hand). That means in effect that there are five memory slots, or pigeonholes, with a bit of spillover to the left hand (which is usually foreign territory for our alien cortex, but still reasonably accessible with a bit of effort).

It may be possible to demonstrate that experimentally, perhaps by seeing if people with six or more dexterous fingers (like Anne Boleyn did not have) show an increase in short term memory capacity. Perhaps people born with fewer fingers might show a corresponding decrease (though it may be that people's brains are still wired for five fingers even if their actual hands differ).

Still, I think there is a good reason why we (courtesy of the Ancient Hindus) count to base ten. And it has to do with both the number of fingers we have and the limits of our short-term memory. It's not by accident that they happen to coincide. The digital origins of that part of our language package are the reason why we express ideas, even as grand as the *General Theory of Relativity,* in discrete sentences, or frames. Recalling George Carlin, "da-da da-da da-da, pom-pom".

Since our short-term memory is closely related to our dominant hand, it's probably also no coincidence that people often exclaim, "I can't grasp what you are saying." Working memory is a kind of quick scratchpad. If my theory is right, then speech and short-term memory recall should reveal sympathetic motor activity in the cerebellum (since it coordinates motor activity in the hand). As it happens, in recent years researchers have discovered exactly that.

> This brain structure [the cerebellum] until recently associated chiefly with motor skills, visual-motor coordination and balance, proves to be significant also for cognitive functioning. With regard to language functions, studies show that the cerebellum determines verbal fluency (both semantic and formal) expressive and receptive grammar processing, the ability to identify and correct language mistakes, and writing skills.
>
> - Various authors, 2017, *The Role of the Cerebellum in the Regulation of Language Functions,* National Library of Medicine

Although its hard to prove, I would go out on a limb even further (see what I did there?), and speculate that's why people often drum their fingers or "steeple" them when they struggle to recall an item form long-term memory into their short-term working memory ("it's at the tip of my fingers" more than "it's on the tip of my tongue"). The alien cortex (Chomsky's "language-acquisition device") really is our inner hunter, toolmaker and warrior, so its functions are closely related to our grasping hand. Just watch how quickly that index finger pops up when it wants to "make a point" or sound authoritative!

The word "sentence" comes from the Latin *sententia*, meaning "thought, way of thinking, opinion, judgment, or decision." There is a strong connotation of it being an "authoritative pronouncement". It's not for nothing that curmudgeonly old judges are said to pass *sentences* down from their benches. After all, our alien cortexes are our inner-judge and critic (and they never really spare other people either).

So I would argue that the reason why we chunk our (verbal) thoughts up into sentences, is because we are repurposing the functions of our grasping hands, which are severely limited in terms of mental "slots" or "pigeonholes", based on the number of digits we have. It all makes sense, if the digital part of our language package originally came from "hunter patter" or mime.

Further, once we've realized the association with the cerebellum, we can easily see why language (and the alien cortex's mode of thinking in general) is so tediously linear. It's because it's being fed through the processing bottleneck of the cerebellum. Since motor-skills, visual coordination and balance are noticeably singular in nature (it's very hard to chew gum, tap your head and rub your stomach in a different rhythm all at the same time) they impose single-threaded processing on our alien cortex. In essence, the transducer or tape head on our mental stream is actually our cerebellum. And that hypothesis is very amiable to experimental verification, should someone wish to try.

These limitations account for why our left-brain hemisphere seems to cognize everything is an assemblage of parts (preferentially about five parts). And it's also why it's so reductive when compared to the more holistic-seeming right brain hemisphere (i.e. our more ancient brain).

At this point I can safely admit that's why I deliberately reduced the human brain to five discrete layers (one for each digit) and shoehorned that into a theory. Obviously it was for the benefit of your alien cortex, "da-da da-da da-da, pom-pom".

It was all just a *framing* device.

I anticipate that this process of framing and chunking, and in particular our alien cortex's blinkered inability to see outside a narrow frame, is about to have vast negative social repercussions for homo sapiens

.
Frames give us a simplified version of reality. And that's dangerous. Especially since our alien cortexes seem to take whatever is in their frame as the complete picture. It seems oblivious to its blinkered perceptual limitations. The alien cortex cares about consistency, but if things are consistent in one frame it mistakes that for completeness, and does not normally cognize its chronic perceptual deficits.

Our alien cortex also has no trouble harboring complete contradictions and mutually exclusive ideas happily in its various frames. The great thing about mental frames is that they don't really have to be compatible or consistent, especially if *never the twain shall meet*.

For obvious reasons (due to single threading and framing), it's difficult to notice this in oneself, or even in someone else, if you share the same culture. It's easier to see it when you are newly exposed to another culture, with a different convention for framing.

For example, I happened to visit a Christian orphanage in India and had tea with some of the teachers. They claimed that it's obvious that the world is going to pieces and we are in the End Times. I asked them how long they thought we had until the Apocalypse and they all agreed that it would happen in the next few years – five years tops.

The conversation then drifted onto economics and the "Indian economic miracle". I asked them how far "Brand India" would take the country. Like most Indians I had met, they were fiercely patriotic, and they thought India "would catch up with America in the next ten years." At the risk of offending me, some of them then cautiously ventured that they thought, "India may soon even exceed America." "How long will that take?" I asked.

Relieved that I hadn't taken affront, they all soon boldly settled on a consensus view that India would overtake America in all things in the next twenty years. I then said, "Don't you think the coming Apocalypse might interfere with that?" They were absolutely stunned. It was obviously the first time that their "Apocalypse Now" frame had met their "Patriotic India" frame.

We harbor mosaics of these incompatible and mutually contradictory ideas in our heads all the time, but most people are oblivious of that fact. Many times I've come across devout evangelical Christians who are shocked to hear that the Bible contradicts itself. Even if they have studied the Bible their whole lives they only ever have one frame in working memory at a time, so it never occurs to them that it is hopelessly riddled with contradictions.

For example, Exodus 20:13 says, "Thou shalt not kill." But Leviticus 20:13 says, "If a man lies with a male as he lies with a woman, both of them have committed an abomination. They shall be put to death. Their blood shall be upon them."

That's a bit awkward.

Who's supposed to cast the first stone?

But let's not be too hard on Indians and Christians – all our alien cortexes do it. The problem is, that we all (or at least our alien cortexes) generally refuse to accept that's what they are doing.

I can't resist telling you one more example of this from the same trip to India. There was a large and prominent billboard ad in the Chennai airport for Kingfisher™ airlines. The Americans I was with thought it was highly amusing, because the advert featured a Kingfisher™ airlines jet plane in the background, climbing on its way, and in the foreground was a smartly uniformed Kingfisher™ pilot toasting the viewer's good health with a bottle of Kingfisher™ beer.

Our Indian hosts just couldn't understand what we found so amusing. In their minds there were obviously two compatible frames. One was Kingfisher™ airlines, which they assured us was a great airline. In the other mental frame was Kingfisher™ beer, which they assured us was a great beer made by the same company. They saw only two things: a great beer advertised alongside a great airline. What's not to like?

Try as we might, we couldn't get them to understand why we saw it as very negative advertising. In our cultural way of framing the same scene, drinking beer and piloting commercial airlines all in the same image was not a good mix! The scope of our mental frames is often dictated by culture. And people that share the same culture are usually not cognizant of how they frame things – it just happens subconsciously through cultural indoctrination, familiarity and habit.

As a consequence, this partial blindness bleeds into all sorts of fields with dire consequences – economists fail to adequately account for what they call "externalities" in their models, pilots fly into the ground when they suffer from "target fixation", and well meaning environmentalists and politicians assume that saving the global industrial system and biosphere from catastrophe is merely a question of transitioning to "renewables".

As a consequence, our whole global monoculture has become like a filmgoer lost in the movie while we forget the theatre. What's doubly interesting is that we are actually generating what's onscreen in a kind of sympathetic delusion, which seems to be chasing its tail down the drain.

In *2001: A Space Odyssey*, Stanley Kubrick tried to remind us of this by panning into the oblong alien monolith that dominates the film until the whole thing fits the screen we are watching. In his own way, he reminds us that we are watching a movie screen, and the screen itself is the central concern of the movie. The MacGuffin in the movie is the screen and our attention to it. The monolith is the flat screen TV we

are watching the movie on – it is our alien cortex's single mental frame.

Again, it's an example of *Mise en abyme* – our mind's eye is watching our mind's eye, and because it is fully engrossed, it forgets that it is only watching a single perceptual frame. With this fatal lack of insight, we pitch headlong into the abyss.
In the same way that our alien cortex tries to fit the world into its frame, rather than the other way round, it tries to make nature and the natural world fit into global industrial society and its world economy. Unless the collective alien cortex learns to invert its worldview very soon, there will be a global cataclysm.

Like so many of the myths from Ancient Greece, the story of Procrustes seems both a warning and remedy against the vagaries of our psyche in this respect. Procrustes was a son of Poseidon and for a while he had a reign of terror on the sacred way between Athens and Eleusis. He offered hospitality to pilgrims and overnight rest in a bed.

Procrustes (no doubt representing our alien cortex) had an unfortunate obsession that his unlucky guests should fit his bed just right. None of them did, so he set to work on them with his hammer to stretch them until they fitted exactly. Similarly, victims who were too tall or wide had their extremities amputated.

Procrustes strange predilection for perfection in this respect continued until one day he ran across the hero Theseus. Theseus turned the tables on him and "fitted" Procrustes to his own bed.

The lesson I interpret from this is that the remedy for our alien cortex framing everything is to turn things around and put it in frame itself. This whole book is an attempt to do exactly that.

In all sorts of disciplines, we make simplified models in order to understand complex things. In other words, we frame things in a way that our alien cortex can digest. And then we jump to erroneous conclusions because we forget that the devil is always in the details.

> "Everything simple is false. Everything complex is unusable."
>
> - Paul Valéry

Just as Kubrick embedded the perceptual frame we are watching (the movie screen) into the film, so Chomsky's recursion comes from frames. Ideas, or sentences, are frames that can be split apart so that other frames can be embedded within them ad-infinitum.

But why is that?

If you accept that we are still on reasonably solid ground with the reason for mental

framing (its merely a digital device based on the limitations of working memory and how many fingers we have), where does the embedding and recursion come from? That's where the "linking" part I mentioned earlier comes in.

It's staggering that our working memory is limited to only about seven items, but if I were to ask you about the capital of Italy, you would have no problem telling me in a heartbeat. And I could ask the same about country after country and you could reply in a flash. The reason is that somewhere in your brain you have an association between Italy and Rome (and all the other state capitals you know of). Associations like that are understood to form in the brain based on what's called the *Hebbian model*. Neuroscientists are taught in school that, "Neurons that fire together, wire together."

What's implied is that *clusters* of neurons that fire together also preferentially wire together. Therefore we have regions of related subject matter laid down topographically in the brain because we perceive them to be associated, either in time, space, experience or meaning. At some point in our life experience, they fired together. And during recall, once one cluster is invoked, there tends to be a chain reaction as other neighboring mental associations are revitalized in turn.

Immediately after answering the question about the capital of Italy, you may spontaneously recall the aroma of coffee, because that's what you enjoyed drinking when you were last in Rome. The association has stuck. Functionally speaking, there must be the equivalent of whole conurbations of neurons and neural clusters for personal associations with "all things Italian".

Our life experience wired them together for us based on Hebbian association. We don't only have somatosensory and other associations, but also a complex personal semantic map of related memories.

Memory of facts (like the capital of Italy) and events is usually called the "declarative memory" part of long-term memory, because episodic memories like those can be readily called back into consciousness and explicitly declared (usually vocalized). The speed that relevant information can be retrieved from long-term memory is nothing short of astounding, and no one really knows how humans pull off their signature trick.

Eric Kandel got the Nobel Prize in 2000, for devoting most of his life to discovering that all our long-term memories, from grandma to grits, owe their existence merely to calcium ions lurking about at the synapses of our neurons. By torturing California sea slugs (*Aplysia vaccaria*, rather than Brain slugs), Kandel showed that weaker stimuli gave rise to short-term memory, lasting from minutes to hours, by opening up ion channels that allow more calcium ions to enter the nerve terminal.

A more powerful stimulus results in a long-term memory, which could remain from weeks to a lifetime. The difference is that the stronger signals reach the cell nucleus

and cause new proteins to be formed, which are more permanent.

Long before Eric Kandel, teachers in ancient Sumeria and Egypt have known that increasing the strength of the stimulus by caning trainee scribes drastically increased their memory retention. I was taught in school the same way and can vouch first-hand for the efficacy or their method!

“Sparing the rod and spoiling the child” is a question of deep versus shallow memory retention. Instructors of the past would probably scorn the lax teachers of today for wasting their time bringing up wide-mesh sieves rather than good scribes. My guess is that this crude notion that the sharper the stimulus the more the retention is only part of the story, and a lot more discoveries are yet to come.

For example, I think it’s likely that our whole memory system has other dimensions due to how factors like mood and other emotions determine where and how our memories are stored (i.e. they have an effect on the relative potentiation of synapses). Neuroscientists have known for a long time that neurotransmitters (hormones) like cortisol, the stress hormone, are responsible for fixing long-term memories, but I suspect they are thinking too unidimensionally.

Consider a simple neural net wired so that stimulus A yields a response of B, and stimulus C yields a response of D. Basically, there are two fixed inputs and two fixed outputs. A system like that is one-dimensional because after training, such a neural net is fixed and its outputs only changes based on the inputs. But due to the magic of mathematical combinatorics, even the most simple of neural nets can store an exponential explosion of possible states if the whole system is multi-modal rather than just uni-modal.

In effect, modality makes every neural node into a complex, almost quantum-like, logical object rather than just a simple binary or analog switch (which I suspect is the way most people think about neurons).

To explain what I mean by modality, imagine that our simple neural net can be subjected to three general “moods” or emotional states: *angry*, *sad*, and *happy*. That way, the same number of nodes (i.e. neural synapses) can become vastly more intelligent, because presented with stimulus A, instead of just being either on or off, a given node in our neural net can now be, *angry-on* or *angry-off*, *sad-on* or *sad-off*, etc. (i.e. each node can have 2 to the power of the number of possible modes).

Thanks to a combinatorial explosion, the next neuron downstream has the benefit of eight possible states ($2^3$) from the first, and each one of those states is raised to the power of three moods again, and so on down the chain. The effect is multiplied exponentially at each neural layer. At the end of a modest cascade, the number of possible outputs is simply vast!

And bear in mind that in our brains emotions come from hormones, and hormones

appear in combinations too, so the multiple modes have combinatorial powers of their own too. Hormones (or moods) can be mixed, vastly multiplying the number of permutations at each layer in a neural net even further.

I think it's unlikely that nature didn't discover and make use of such an obvious and powerful trick. If the same neurons are repurposed based on hormonal context, there would be a massive saving in memory space.

So to circle back on topic using a wild example, we can guess that when I say "Italy", thanks to the modality of our brains, if you currently happen to be saturated with oxytocin, you may instantly think of the baby Jesus, simply because you once wired up a Hebbian long-term memory when you happened to be in a church somewhere in Rome and were flushed with the "love hormone.".

But now suppose you happened to be flush with adrenalin when I said "Italy". That might suddenly invoke the image of the Italian soccer team that once made you very emotional (charged with adrenalin) when it beat your favorite team in Cardiff. The remarkable thing is, it's possible *that the very same neurons were being reused or repurposed in both cases thanks to emotional context*.

The very different results, or logical pathways, are merely because of the many modes our hormonal regimes allow each of our neurons to be in. Wiring from a given stimulus in a happy mood, for example, means that when you are in that mood again, the memorized response from that stimulus is more readily accessible than when you are in some other mood.

It makes one wonder if Freud was not just wasting his time with his "free association" psychoanalytic techniques. Perhaps any "repressed, incestuous, erotic thoughts" his patients were having were not significant at all, just the result of the sexually charged atmosphere between him and his patients in the consultation room at the time. In a different setting, with a different emotional atmosphere, the memories may not have surfaced. Perhaps the more time his patients spent with him, the more they went down a rabbit hole of their own making.

The important thing to appreciate is that if neurons are not just binary switches, as we popularly think, then even with a modest neural net, the combinatorial possibilities rapidly explode. The only way to describe the large number of possible machine states we are dealing with in one small part of a human brain is to resort to comparisons like "many more than the number of particles in the entire universe" etc. If so, I highly doubt that quantum computers will ever match the capabilities of the average village idiot, because researchers struggle to string five Qbits together, whereas we each have something like 10 billion Qbits in our brain.

Except that they are much more powerful than mere Qbits, since we have a long list of neurotransmitters as signaling molecules and each one of them potentially provides each of the 10 billion neurons in our brains with a new mode. So our neurons are

something like “exo-qbits”, and the limits on their storage capacity must be something like Graham's number (which is often called a “power tower”, and perhaps that’s what the Bible was really referring to by the Tower of Babel). At least you can probably relax with regards to any danger that you might “fill up your memory.” It’s probably better to start worrying about ways of living large enough to lay down some tracks (or mental associations) in such a huge memory space! Is there any evidence for this multi-modal behavior?

Well there’s certainly the opportunity of a rich field of research. It’s easy to think up anecdotal examples of our multi-modal long-term memory in action. For instance, we have all experienced being too angry during an argument to know what to say, but then when we’ve got our composure back later, we suddenly come up with a dynamite response when it’s far too late. If we had a cool head at the time, we would have had no trouble thinking of an appropriate response.

My guess is that’s because the appropriate response we hoped for was wired (by Hebbian association) into the brain when we were calm (perhaps awash with serotonin). When aroused and flushed with a fight-induced cocktail of adrenaline and cortisol, that particular response is no longer accessible. But if it were wired when we were filled with adrenaline and cortisol, then the item might be more immediately accessible in a fight.

The hormones used to wire a memory may be the hormones best used to retrieve it. The implication is that if you train for something in a relaxed atmosphere, your training may not be as useful when it’s required to kick in when you are in a highly emotionally charged environment. And vice versa. Which is perhaps why people with PTSD struggle when they return home from a traumatic environment. They are fish out of context of their usual hormonal neural wiring landscape. Placed back into the same hormonal regime, they might be more adapted.

Have you ever noticed that various amounts of intoxication unlock whole worlds of memory that are not accessible at other levels of inebriation? Perhaps you’ve noticed that when sober you can’t remember a joke someone told the previous night in the pub, but have the same amount of drinks again and everything comes back to you as if by magic. Perhaps what gets wired at a certain level of alcohol in the bloodstream makes the memory more accessible at the same concentration.

I imagine that there might be a lot of avenues for research there. And I even volunteer myself as a research candidate if the beer is good.

Aside from vastly increasing our memory capacity, I think nature had a very good reason for evolving our nervous systems in this multi-modal (or multi-moodal?) way. Aside from saving space in our memory banks, the vast array of emotional overtones gives us a rich salience landscape in which our memories can operate. Context is everything. Just like we discovered recently with our genes, in different contexts the same gene does different things; so too with our neurons. People with emotional

deficits (with Asperger syndrome or autism for example) often seem to have flat long-term memory landscapes, almost like the mnemonic version of no color vision. Perhaps some savants have awesome powers of memory because their memories are laid down with what amounts to a hormonal monotone.

While that may give them fantastic powers of recall (so-called “photographic memory” or eidetic memory), it leaves their brain unable to make a hierarchy of salience or the ability to rank-order the importance of impressions. Therefore they also have a corresponding inability to adequately forget, and that prevents the brain from doing proper housekeeping or pruning of irrelevancies.

Solomon Shereshevsky was a famous Russian savant with a prodigious memory, and he actually went as far as writing things down on paper and burning them in a desperate but futile effort to forget them.

Shereshevsky aspired to become a journalist, but he never made it. You might assume that people like Shereshevsky would make great press reporters or journalists, because they can remember long speeches verbatim without even taking notes, but that’s not actually the case.

With a flat salience map, a savant like Shereshevsky might for example remember every word of the president’s state of the union address, but he might give equal importance to the fact that the president said, “Is the microphone on?” as to when he says, “And today we just dropped an atomic bomb on Hiroshima”.

Which could obviously make for baffling headlines.

Because of this Shereshevsky’s was a dreadful journalist and his peers viewed him as disorganized and unintelligent in general. Without a proper salience landscape to guide them, savants often struggle to navigate the world in our socially accepted context. Their impressive feats of memory may just be mood disorders.

Patients with hyperthymestic abilities (the ability to remember an abnormally large number of their life experiences in vivid detail) describe themselves as being burdened with a non-stop stream of uncontrollable memories that are totally exhausting. So forgetting is just as important as memory. Just as with sculpting in stone, what you chisel away is just as important as what you leave. People like Shereshevsky are probably barely chiseling away at anything.

Ever since the science journalist Daniel Goleman published a book called “Emotional Intelligence” in 1995, emotional intelligence or EQ has been all the rage in the popular press. The idea is that being smart is not just about IQ; it’s also about how you control your emotions. In our culture rationality is everything, and emotions are the enemy.

Obviously the EQ claim is roughly that it’s no good just having an uber-alien cortex, your alien cortex also has to be able to suppress your emotions (i.e. the other four

layers) before your alien cortex can call itself really “smart”.

If emotions give the multi-model brain its prodigious memory and salience landscape, as I think it does, then efforts to raise EQ are probably actually making people dumber rather than smarter. It might appear to alien cortexes like Goleman that people with enhanced alien cortexes are more intelligent, but that’s just alien cortex narcissism. Goleman claimed that EQ accounted for 67% of superior performance in leaders, and mattered twice as much as technical expertise or IQ.

Perhaps he’s forgetting that our culture celebrates and preferentially promotes psychopaths (i.e. people with flat or restricted emotional responses) to leadership positions. Maybe if he repeated his research with the Pirahã and the Khoisan it might nudge his own personal EQ along a little.

By raising your EQ and reducing the range of emotions you experience, you are probably drastically reducing the possible memory storage and retrieval modes your brain has available to it. A seemingly more intelligent alien cortex might be bought at the expense of losing the ability to understand abstract concepts, figurative speech or losing your heart and basic humanity.

You’re actually turning yourself into a savant like Rain Man or Shereshevsky – more of a computer than a multi-dimensional person. Domestication is actually killing us, but we’ll return to that topic later.

Don’t forget that Shereshevsky died in 1958 from alcoholism (probably in an attempt to blot out his alien cortex the way it had blotted out the rest of his brain layers?). So I wouldn’t exactly scramble to join the high EQ, frozen-chosen at the top of the social hierarchy in our psychopathically inclined, alien cortex-dominated global monoculture, Emperor Palpatine!

Our alien cortex’s ability to repress our emotions may have served us well when it came to losing our fear of fire, but by the time it got to praising itself for its EQ things have probably gone a little too far.

Putting the salience landscape of long-term memory aside for a moment, if a multi modal brain has astronomical storage capacity, how are ideas (or frames) stored and retrieved so rapidly from such a vast database?
No one is really sure, but let’s speculate.

First, let’s discuss what our brain is *not* doing.

We certainly don’t store and retrieve information like one would in a filing cabinet, which is how computers mimic our talent. Computers store information in hierarchical, relational or graph databases. They are all versions of the same catalog and indexing systems that you would find back in the Dark Ages when people still used libraries.
If you ask a computer “What is the capital of Italy?” it does more or less what you

would have done in pre-Internet days to answer any question that required reference to books.

Back in the day, you would have gone to a library and said to a flesh-and-blood librarian, “I want to find out what the capital of Italy is.” The librarian would have said something like, “Ah, that’s a question about political geography, let me look in the catalog.” She would then go to the catalog and look up “History & Geography” in the Dewey Decimal Classification system and find its in class “900”.

Next she would find “Geography of & travel in Europe” in class “914”.Then round about “914.50493”, there would be books about Italy. She would then waltz you off to a bookshelf where you would be left to peruse racks of books.

You would look through the indexes of promising looking tomes until you found something like “Capital city, Italy.” Then, if you were really lucky, you would go to a page in the book that might reveal, “Voila! The capital of Italy is Rome!” Don’t worry, the way this planet is going I suspect we’ll soon be back to that way of doing things. If you stored the sentence, “The capital of Italy is Rome”, somewhere in your long term memory, then you could save someone else a lot of trouble in the future. They would ask you, “What’s the capital of Italy?” and you would instantly respond, “Rome!” But your brain certainly would not have done anything like the procedure you followed in the library. If it did, having a casual conversation would be something like talking by long-wave radio to someone on another planet.

If I type, “What is the capital of Italy?” into Google search, I get back 863,000,000 results in 1.03 seconds, but right at the top is “Italy/Capital” and a box with the Wikipedia entry for Rome and a helpful map, so obviously the Google search engine knows the answer to the question and it can retrieve it at about the same speed as a human.

In truth, a computerized search engine does not really “know” the answer. Essentially it fakes being clever by using a catalog and index system just like a filing cabinet or library. It did not really work the data content or its relationships out for itself. It relies on humans to do that for it, in the same way as the Library of Congress is not really “intelligent” itself – it’s as dumb as a brick. It’s just a repository for human knowledge organized in a way that only humans find salient or important (but may be mystifying to savants like Shereshevsky, or lumps of trained transistors, like androids).

Other organisms that might take an interest in a library, say for example rats, silverfish or wood worms, are not quite so fussy about how the library is organized, so long as the wood pulp is fresh and tasty. Behind the scenes, servers do a lot of pre-computing to make the retrieval look semi-instantaneous by virtue of a kind of cheating.

Alphabet Inc.. the multinational parent conglomerate of Google, spent a lot of time, money and computer power to crawl the web and read every possible page so that you don’t have to. To mimic a human takes a monumental amount of time and

computing power. Larry Page, one of the founders of Google, came up with the PageRank algorithm, which ranks pages (see what he did there?) to estimate the importance and interconnectedness of every page their automated spiders could find on the World Wide Web.

The Google search engine and PageRank algorithm have no legitimate intelligence of their own. Like most databases and algorithms, they are just borrowing from the intelligence humans evolved thanks to nature.

First, from the authors of the pages that used their native intelligence to put in links that web crawler bots can blindly traverse, and second because Google records and improves the search relations based on user behavior.

For example, many kids must have typed in, “What is the capital of Italy?” and the search engine recognizes that most of them were satisfied in their quest when they clicked on stuff about Rome (since after that they stopped clicking and started reading). So the search engine, without any more sentience than an old-fashioned telephone exchange, “remembers” that humans somehow tend to prefer an association between that question and Rome.

Any apparently artificial intelligence it has is based on theft.

But it does not have a mind or any genuine understanding of what Italy or Rome really are, it just knows that bunches of keystrokes are somehow related thanks to electronic wizardry and far more biometric surveillance than most people are comfortable with. John Searle pointed this out in the 1980s and called it a “Chinese room”. Basically, the argument is that computers are just dumb boxes that recognize that some semantic frames are linked to others, while the meaning of each frame is totally foreign. It’s us who are intelligent; AI just borrows our imprimatur. In the case of social media, it steals it. How do we know if humans are not also just Chinese rooms? What, if anything, makes us any different from having a discourse with the Google search engine or Deep Blue (IBM’s chess playing computer)?

If we say that the human mind uses a different mechanism to a machine, but mechanical mechanisms and biological mechanisms are not much different – mechanisms are mechanisms – so then we may as well admit that we are no better than a bunch of transistors in our AI brainchildren

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I would argue that mechanism makes a world of difference. Because the mechanism used in our alien cortex’s offshoots, AI, is closed, terminal and limited. The mechanism we use in our brain is effectively open-ended and infinite. So the difference between machines and us is the difference between bricks and gods.

You may be wondering, “How can it be that merely a different mechanism can make such a sublime outcome? And why couldn’t we just change AI to use our brain

mechanism and then say that we were now equal? Both Deus ex Machina." To answer the second part, my hunch is that it is beyond the limitations of physics for hardware to ever adequately emulate the mechanism of any wetware (for intrinsic rather than accidental reasons) and that will always be the case (even if you add buzzwords like "quantum" to your business plan).

Now you may say, "But can't we just make wetware AI that meets or beats the capabilities of our wetware?"

The answer is that you could, but then you are doing biology. If you are doing biology then you have to obey the laws of biology. We didn't create the rules in biology any more than Shakespeare invented the English language. So you are no longer dealing with AI, you are dealing with living organisms, and you are no longer the boss, which defeats the futurologist's agenda.

Sure, we can manipulate life, but biochemists and genetic engineers don't get to make the rules the same way that electronic engineers and robotics nuts do. Therefore our alien cortex loses the status of "creator god" that it thinks it has with robots, machines and AI. Even in the case of synthetic biology, we have to play by the rules of Nature, and natural law is always the supreme god in that realm.

We are the progenitors of nothing. Now having said all that, it's now incumbent upon me to try to prove to you that a biological mechanism can be open and effectively infinite and cannot be mimicked in any deep or serious way by any similar electro-mechanical device (regardless of quantum nonsense or other pixie dust).

So let's hypothesize on how we store and retrieve long-term memories and use them in working memory to instantly and so effectively answer questions like, "What is the capital of Italy?"

I think the human brain's astounding trick is based on something more like Powerball rather than a filing cabinet or library system. Our neurons are sitting around like Powerball contestants in clusters waiting in real time to see if their tickets (i.e. the neural information encoded in them) come up on TV. An electrical stimulus in our brain is broadcast to entire brain regions (more or less) just like the Powerball results are broadcast simultaneously to everyone in the 45 participating states.

Now compare that to a typical computerized information retrieval system, where retrieval is executed on a single processing thread (e.g. you going to the librarian, causing her to go to the catalog etc.).

It's much more holistic; more like if you go into the library and ask, "What's the capital of Italy?" and find that every book comes to life Harry Potter-style and starts jumping up and down going, "Pick me! I know the answer! Pick me!"

Now let's imagine each engram or idea chunk in a vocalized question as a Powerball

game in the brain.

The first number to come up is say “19”, and that is broadcast across the nation (or brain). Now everyone who has a matching ticket that starts with “19” gets very excited (i.e. clusters of neurons that are wired to match the stimulus get activated). Unlike contestants in Powerball, neurons are connected to each other in something resembling an electrical power grid. In the brain, when “19” comes up it not only energizes some clusters of neurons, it actively drains energy from others. It’s much like if 99% of homes connected to the grid suddenly switched off all their lights at once. That would cause a brief power-surge in the remaining 1%.

Now imagine that the next number to come up is “25”. One percent of the one percent would now get very excited indeed, but that wouldn’t only drain power from the others, their excited state would cause the others to be *actively suppressed*. Neurons are wired so that related clusters inhibit their cousins if they are stimulated more than once in a row. They become self-filtering as the stimulus sequence progresses.

So in effect, “19” is the equivalent of neurons that match the encoding for “all capital cities.” Powerball “25” is the equivalent of “Italy” and filters our other neurons that code for “the capital of China” and “the capital of Russia”, for example. Because China is analogous to some other number, like “13”, say, and Russia is possibly “99”, which are not a match, they probably fire but with less strength. Since Italy (“25”) is a match, the “Italy coalition” of neurons then sends a message to “13” (China) and “99” (Russia) to actively inhibit them on the next loop (this is not just a linear cascade, it is many iterations of electrical storms in various loops).

Inhibitory neurons release a neurotransmitter called GABA, which makes the synaptic membranes of neurons more negative, so a relatively more powerful electrical stimulus is needed to activate them again. In other words, they are effectively suppressed and splutter out. Meanwhile, in our analogy, the excited neural coalitions (“capital cities” and “Italy”) uniquely trigger a cluster of neurons that encode “Rome”, thanks to being laid down in long-term memory due to an old Hebbian association.

When “Rome” gets triggered, it causes a cascade of reactions that may make you vocalize the word “Rome” using myriads of other sympathetic neural pathways. While that kind of parallel functionality takes a lot more energy, it’s ultimately a lot more efficient than what computers do – which is the equivalent of a lone messenger or librarian sauntering off to a catalog or index. One quickly gets an inkling of why the human brain consumes 20% of our energy!

Computers try to mimic our mode of operation by using tricks like having many librarians rush to parts of the catalog all at once, or by pre-computing questions so that the answer is readily available from memory caches and fast lookup tables, but ultimately teams of librarians (i.e. CPUs or computer processing units) are forever doomed to underperform our massively parallel, analog-processing wetware (backed up with jargon and quantum jackalopes to impress the investors or not!).

So far, I've described the brain as highly modal (i.e. reusing and repurposing neurons based on context), highly parallel in its execution, and highly linked or associated (according to a salient, Hebbian association model).

As an important side note, it's worth observing that because the physical world is pragmatic and logical, as a consequence, our brain is wired up logically as we explore.

As George Orwell described in fiction, it's possible to set up an illogical virtual reality or fake world where the denizen's brains are wired up so that two plus two equals five. The world of the alien cortex is potentially exactly such a dystopia. All this hopefully sets us up to understand Chomsky's (or rather Peirce's) notion of recursion.

Because engrams, idea chunks, or Procrustean mental frames are wired up in our long-term memory in a 3D salience landscape according to their relevant associations, alighting or triggering one such frame tends to cause a sympathetic reaction in our other neural networks.

Since "Italy" is not only wired up to "Capital cities", but also to the smell of coffee in Rome, while you are talking about Italy in one frame, its easy to take an associative departure into another part of your semiotic neural web. So while asking the question, "What is the capital city of Italy?" the mere mention of Italy sparks the coffee memory so quickly that, mid-sentence, it may cause the speaker to split the memory chunk they were articulating to instantly elaborate, "What is the capital city of Italy, *where they have that coffee with a wonderful aroma*?
"

"Ah, Roma," you say, suddenly making a new Hebbian association with Italy, Rome, coffee and aroma.

Peirce's semiotic recursion is easy to understand if we model the alien cortex as a kind of associative semantic web or graph that can easily be represented graphically.

> The meaning of a representation can be nothing but a representation. In fact, it is nothing but the representation itself conceived as stripped of irrelevant clothing. But this clothing never can be completely stripped off; it is only changed for something more diaphanous. So there is an infinite regression here. Finally, the interpretant is nothing but another representation to which the torch of truth is handed along; and as representation, it has its interpretant again. Lo, another infinite series.
>
> - Charles Sanders Peirce, *Collected Papers*.

Educators have been using concept or mind maps (logically linked Procustean

frames) for many years as teaching tools. Peirce wrote about an “Existential graph”, which is a very similar concept, back in 1882.

Mind maps are useful because they graphically capture the functional (recursive) model in our brains so well. Just like Wikipedia, we have a kind of infinitely traversable spider diagram in our heads.

The reason why the Pirahã probably don’t split sentences in a recursive manner is that their mode of interaction is more immediate and interrogatory – you say; I say. Their speech is more like a game of ping-pong, whereas in our more alien cortex dominated culture we tend to go off in long monologues of semantic self-exploration as we explore the associative web in our own heads – a kind of alien cortex masturbation. What our Alien Cortex is doing is exploring a chain, graph, or mesh-network, of mental associations that we built up from childhood through exploration of the natural world.

Our other brain layers have no need to do that, because they are more basic action-reaction or stimulus-response mechanisms. It’s possible that the Pirahã are using their older brain layers more than their alien cortex. Their speech is therefore more feeling oriented than cerebral. Or at least the first four brain layers are more in the driving seat than in our culture, where its socially acceptable for Olympic monologuers like Chomsky and Kissinger to actively try to inhibit the rest of their brains in a show of Gold medal-winning EQ.

If one zooms out a bit, and looks at Pirahã’s speech at the level of a discourse rather than just a sentence, Everett readily confirms that they are traversing a mind map or graph of ideas just like any other member of our species. That’s very interesting, because it tells us a lot about the alien cortex’s organization.

Since information in our heads can be condensed (e.g. a whole book can be condensed into a single title), and any frame can be infinitely expanded upon (as Peirce said), that means in effect that the data in our heads is “scale free”. In other words, in terms of frames, if I present some information to you extemporaneously and out of context, it’s impossible to tell at what “scale” (or how condensed) the information in that frame is.

For example, if I present the frame, “Veni, vidi, vici”, you can’t tell if that is a tiny fragment of Suetonius's *Lives of the Twelve Caesars*, or a massive oversimplification or condensation of the details of what happened to Julius Caesar at the Battle of Zela. If the information in our heads is conceptually scale-free, that’s a strong hint at how our brains are organized at the most fundamental level – *they are actually fractal!*

Chomsky and Peirce’s observation is not that there is a “universal grammar”, it’s that frames can readily be fractured into other frames (“zooming in”). And the opposite is also true. Frames can be infinitely summarized into other frames (“zooming out”).

If Chompsky had come up with his theory in the Eighties rather than in the Fifties, I guess what he would have said is that natural language is *fractal*. I think that's what he was really trying to say (although I'm sure he would be the last to admit it). Wikipedia, where most of this book is plagiarized from (see the recursion implied there?) is noticeably recursive. Any given page in Wikipedia is usually littered with links to other Wikipedia pages, and they are infinitely recursive.

Follow enough internal links in Wikipedia and you probably find yourself back where you started. Therefore, Wikipedia is organized on the same (fractal) principles as our alien cortex. As both Chomsky and Peirce intuited, if the information in our brains is fractal, then it is effectively infinite. That's decidedly not the case with the way most computer databases are organized (except maybe for graph databases, which try to mimic our trick, and usually use our intelligence to populate themselves, but are "flat" and don't allow the ability to change zoom levels).

Computers and AI are effectively closed and finite in architecture. In spite of tech-nerd fantasies, they're actually as dumb as any Chinese box, and always will be.

But it's important not to go too far, and claim that therefore our alien cortex has god-like or omniscient properties. That's going more than a frame or two too far. I feel and think that the religion of a "Universal grammar" is in a way a bungled attempt by linguists to give thought (a la alien cortex) a divine or absolute status. The formalist schools in mathematics and logic attempted (and failed) to do something similar in the early 20th Century when they tried to put their version of linguistics – mathematics – on a complete and logical footing (no doubt as a prelude to systemizing and digitizing the whole world).

Absolutist ideas like "Universal grammar" are a first step towards legitimizing only grammatical thoughts and delegitimizing all others (including feelings). The major premise is that all thoughts are grammatical, and hidden somewhere is the minor premise that if a statement or sentence is not grammatically "correct" then it is a "non-thought". It can therefore be summarily dismissed and disregarded. Everyone knows that some ideas and feelings cannot be expressed in words.

So what the alien cortex is trying to do is extend its hegemony in a power-grab in order to invalidate and nullify the type of thought in the other four brain layers – types of thought that it, with its Vogon-like nature, cannot comprehend (grasp) anyway. Everett's claim amounts to sedition against the absolute sovereignty and supremacy of the alien cortex, hence the fierce counter-reaction.

If any and all valid truths can be expressed as grammatical statements, then as long as our agreed axioms are satisfied, we can safely entrust absolute authority to a mechanized, universal "truth telling" machine. Once we all agree that this God machine operates from a finite set of logical and grammatically valid operations or algorithms, we lose all rights or privileges to contradict or challenge any of its results

– no matter how bizarre they might seem.

The universal validity of any statement can finally be determined as either “true” or “false”. Pandora then has God firmly in a box. *All hail the Ark of God!*

Now let’s consider what happens in practice when you go to the tabernacle and ask such a machine a simple question. The first question we ought to ask is, “what exactly is a question really anyway?”

Let’s pretend that a question is basically saying, “I have come to a cul-de-sac in my mind map, so where do I go from here?”

And an answer is an attempt to provide a new reference link from where the questioner stands to the rest of their mind map. A new piece of information or a new concept may be necessary in order to bridge the gap. Douglas Adam’s “Ultimate Question’ of “Life, the Universe and Everything” is really asking, “What is it that links EVERYTHING?” Of course the answer is bound to be frustrating for our alien cortex, because the simple answer is too simple: *everything merely links to everything else!* It’s just like Wikipedia that way.

In one sense, that’s what Chomsky seems to be struggling to say with his “Universal grammar” concept. On the one hand, our alien cortex’s recursive or fractal structure is frustrating because it does not allow the alien cortex to anchor itself in anything other than itself. It dearly wants to dominate and “own” everything in Heaven and on Earth, but the one thing it can’t possibly dominate, self-own and box up is *itself*. Oh, what agony!

On the other hand, the fact that it hangs unfettered in midair, as a closed self referential recursive mass, is also a kind of self-deification. The alien cortex’s closed, self-referential, solipsistic mind map is its castle, and its immutable logic and fractal or recursive “Universal grammar” is its Olympus.

Glorious as this conception might seem, the whole conceit crashed and burned horribly during the 1930s in a hail of paradoxes and inconsistencies. One of those was Russell's paradox (or the well-known “Barber’s Paradox”) named after Bertrand Russell, who led the British revolt against the alien cortex idealism of the late 19$^{th}$ Century. Russell's paradox epitomizes the limits of Chomsky’s so-called “infinite recursion”.

Going back to the librarian’s catalog, imagine a master catalog of all the library catalogs that do not contain themselves. The question is, should the master catalog list itself as one of the catalogs or not? There is no good answer, because if you say it should, then it is not one of the catalogs that does not contain itself, therefore it shouldn’t. But if you say it shouldn’t, then it should, because it becomes a catalog that does not contain itself.

Self-reference is no less of a conundrum for our little brains and their mind maps either.

In the 1930s, first, the logician-magician Kurt Gödel proved undeniably using mathematical logic (i.e. numerical "Universal grammar") that a complete and consistent set of axioms for all mathematics (i.e. the alien cortex's complete and universal mind map) is impossible.

Omniscience and infallibility is probably not a thing – not for Allah, Jehovah or even the alien cortex under your cranial vault. Close on the heels of that unmitigated disaster came Alan Turing and Alonzo Church's result to the *Entscheidungsproblem* or "decision problem". It turned out that the truth of many perfectly grammatically valid statements were effectively incalculable or unverifiable.

We'll come back to that juicy story later, but it seems that this utter catastrophe for formal mathematics and logic seems to either lie outside most linguist's perceptual frames or beyond their comprehension.

In essence, Chomsky's insight that the strength of language was that it was infinite because a set of finite elements (axioms) could potentially be infinitely embedded within a single sentence or idea was also its biggest weakness. Universal grammar is finite and has strict limits in terms of veracity or validity. Not to put too fine a point on it, taken too far, language itself is bullshit.

This result is far worse than saying there is no such thing as a "Universal grammar". It's worse than even saying that the alien cortex is not God after all. It's conclusive proof that nothing that can be described grammatically can possibly be "God". It's not just that *God does not exist*; it's far worse than that. It's that the whole idea our alien cortex has of there being such a thing as God (as defined by an omniscient, omnipresent, and omnipotent supreme being) is faulty – invalid by the alien cortex's own rules and axioms.

Voltaire said that, "If God did not exist, it would be necessary to invent Him."
And that's exactly what our collective alien cortex did.

Except what Voltaire did not know was Gödel, Church and Turing's results. Had he known about them, he would have known that our invention was nonsense – and not just run-of-the-mill nonsense, but rather the gold standard in mathematically provable nonsense.

The closest thing we have to a supreme God is this alienated, sealed, self-referential, recursive mind map that floats in abstract space (somewhere between our ears, except our ears also seem to spend most of their time floating somewhere in the abstract space of this virtual mind simulation).

And if that's not bad enough, there's not just one Absolute One, at last count there

were about 7.8 billion different ones! The threat the Pirahã culture poses for this sorry substitute-for-God our culture has is that their way of life demonstrates that we don't even need it. To add insult to injury, God is superfluous. In fact, we'd be better off without it.

Is it any wonder that the Brazilian government is deliberately erasing their culture now and torching their Eden in a kind of cerebral purgation rite or ritual alien cortex cleansing?

Our alien cortex provides us with a highly mutable simulation or model of the physical world beyond our five senses. There is the world, and then we have a parallel Matrix or virtual *simulation of the world*. In the words of Iain McGilchrist, the right hemisphere is in the present and connects to the senses, while the left hemisphere re-presents (represents) the world.

The price of experiencing the world through our alien cortexes this way condemns each of us to a solipsistic dungeon where its impossible to tell if other minds really truly exist, or whether they merely exist in our own personal, private, virtual, mental simulations of the world (René Descartes's evil demon or "brain in a vat").

Although the Pirahã must surely have an alien cortex, they don't seem to have a parallel virtual simulation of the world they live in quite like we do. Their internal mind-Matrix is the external natural environment. They seem to have very little "personhood".

The mind map they have is the big wide world of Nature itself in the most immediate and concrete sense. According to the way I think, the only belief worth having is that there really is one and only one big wide world of Nature, and all our mental simulations exist in it, rather than the other way round, as our alien cortex Brain slugs try to convince us.

The most interesting thing about the Pirahã is that they seem to have transcended our delusion merely through culture. Apparently genetics is not enough to condemn us to our solipsistic dungeon. Chomsky was wrong in a larger sense.

What the Pirahã show us is that the hardware also needs our cultural software in order to complete the Matrix-trick. And the Brazilian government is proving this further by now successfully reprogramming the Pirahã in schools and successfully drawing them into our dystopia. Without having our cultural software, they don't even have enough of an alien cortex to fight back.

> "If I am right, that the story of the Western world is one of increasing left hemisphere domination, we would not expect insight to be the key note. Instead, we would expect a sort of insouciant optimism, the sleepwalker whistling a happy tune as he ambles towards the abyss."

- Iain McGilchrist, *The Master and his Emissary*

The waxing of the alien cortex marks the waning of imagination. After the Younger Dryas, a brief return to glacial conditions until the long rise in temperature that reached the ten thousand year plateau of the Holocene period and remained flat until temperatures took off with the Industrial Revolution, I think the alien cortex entered a new regime.

This period marks the emergence of the first cities and civilizations, and they had a reinforcing effect on the evolution of our alien cortex and its culture, and it drove a wedge between urbanites and indigenous people like the Khoisan and Pirahã people.

It's not a popular thing to say, but it's not just cultural, it goes right down to the genes. And the insult is to us in the West, because the evidence is that we have a kind of evolutionary disease of the brain, and we are on a trajectory towards self-annihilation, while most indigenous cultures that have not been afflicted by our Brain slug, have no reason why they shouldn't last indefinitely (if left to themselves).

Although essential, language is not enough to build cities, civilizations and empires. Numeracy and mathematics – the language of numbers – is also required for running the necessary bureaucratic apparatus. Even the Inca Empire didn't have the wheel, but it ruled 10-12 million people using the *quipu*.

The art of reading the quipu has been lost, but up until the Spanish conquest of South America, all records, counts and contracts were kept using long tassels of wool or cotton which were hung together like lace curtains. The hanging cords of different colors were knotted together to record large amounts of numerical data, including tax collection and property ownership.

The "modern" alien cortex could not have come about without outsized communities sharing common cultures, and those can only be held together with mathematics (at least to the level of Roman numeracy, which is admittedly not much). So in order to fully understand the next leap our alien cortex took, after the Younger Dryas, it's necessary to understand where counting came from.What is it even good for?

Daniel Everett says that when he tells audiences that the Pirahã people have no numbers, people often ask, "Does that mean they don't even know how many children they have?"

In truth, they don't know how many children they have and they don't need to know either. They know the face of each of their children, and dearly love them, and therefore they know instinctively whether they have a "full house" or not. In accordance with Gestalt psychology, they are seeing things in complete wholes (i.e. with their right brain) rather than in parts (i.e. their left brain).

They are using the mammalian brains and pure love to count, and that's more reliable than using our old bean counter, the alien cortex. Everett illustrates the point with reference to the movie *Home Alone* from the 1990s.

If the Macaulay Culkin character's parents had used the Pirahã people's method of roll call, instead of counting with their alien cortex, then they would not have miscounted, and he would not have been left home alone. I imagine Pirahã people (or at least their mammalian brains) would be appalled at how we callously leave our alien cortex in charge of our children.

Our alien cortex can do statistics, but it cannot do humanity. When Joseph Stalin said, "A single death is a tragedy; a million deaths is a statistic," he was referring to the fact that a single death is cognized by our mammalian brains, while a million deaths is processed by our alien cortex. When one considers that Stalinism caused six million direct deaths and nine million in total, one quickly appreciates why some people say we would be better off with a Matriarch in charge (i.e. the mammalian brain yoked to the alien cortex) rather than a psychopath like Stalin (i.e. the reptilian brain yoked to the alien cortex).

While Clever Hans the horse could not count (he merely responded to hidden cues from his audience), many animals, including bees, can. Numeracy is not the ability to size up relative quantities against each other. When Pirahã trade, they know the size a pile of Brazil nuts should be in exchange for a given quantity of powered milk, sugar, whiskey or sex. But they don't map the quantity to a digit on their hands or a numeral. True counting requires "ordinality" (Latin *ordinalis* "showing order, denoting an order of succession") or ordering by a row-sequence or series.

I would define counting as using a memorized sequence (e.g. the digits from one to nine) to map countable items one-to-one in a frame, and then using the frame as a modulus (mathematical modulo operation) to round off the count and embed the count recursively in larger and larger frames. So for example in our base ten counting system, you have a "units" frame recursively embedded in a "tens" frame, embedded in a "hundreds" frame and so on. Like an odometer, digits from one to nine represent the fingers on our two hands (the first wheel on the odometer), tens represent a memento that we have multiple sets of "two hands" (the second wheel of the odometer) etc.

Therefore, one has to be cautious when claiming that animals can count. What many of them may be doing is simple pattern recognition (how the Pirahã count the members of their families) rather than counting. For example, experiments have shown that ostriches seem to know how many eggs they have in a clutch, and they seem to be counting them because they often tap them with their beaks as if they are going, "one, two, three, …", but what's more likely is that their brain is imprinted with the pattern of the clutch, rather than they notice that an egg is missing due to a false tally.

I imagine this can be tested if one can get them to incubate flat cardboard cutouts representing eggs (or 3D models that can gradually be fused). By gradually overlapping the egg facsimiles it might be possible to show that the shape is more important to the birds than the count. To a bird, a bigger egg may even count as two, if it's using pattern recognition rather than procedural counting.

Since I theorize that when we are counting our alien cortex is mapping items to our fingers in cardinal sequence, I'm skeptical about claims that birds, such as pigeons, have been "trained to count". Rather than revealing an animal's innate ability to count, all some experiments may be doing is just revealing some experimenters ability to train a simple neural net in the bird's head using a behavioral stimulus.

The same thing can quickly be done on a computer using a simple neural net modeled in software, but no one would claim that such a net has the ability to count. I seriously doubt that humans starting counting because they craved having empires and they knew that innumeracy would be a large obstacle to their imperial ambitions.

But what does the historical evidence show us? How and why did counting begin?

One of the earliest pieces of evidence presented for humans counting is a set of notched bones found at Border Cave in the Lebombo Mountains in South Africa, dating from about 44,000 years ago. The *Lebombo Bone* is thought to be a tally stick made with 29 distinct notches in a baboon's fibula.

Because the number 29 is close to the synodic or lunar month (29.53 days), people were quick to speculate that the Lebombo bone was a lunar calendar. With a keen eye for opportunities for historical revisionism, and wrongly falling for our cultural myth that everything to do with the alien cortex is a "good thing", Feminists were quick to claim that the Lebombo bone might have been used to keep track of menstrual cycles, therefore the first mathematicians were African women! Is that perhaps why women dominate the field of mathematics to this very day? It's all to do with female plumbing? Really?

There are good reasons to be skeptical. Personally, I can't think of any good reason why any indigenous woman would want to track her menstrual cycle using a tally stick (or any other method, for that matter). I haven't heard of that in any culture, and if the Pirahã women don't find a need to do that, I don't see why anyone else would. How would it even work, exactly?

When a woman had her period she took out her handy little notched bone that she carefully marked by averaging out each day between her menstruations (which would give 28 days, by the way)? And then she tied a little thread around the bone and moved it along a notch at a time each day so she knew in advance when her next period would be? Why would she bother? The next cause for doubt is that the bone is broken right at the 29$^{th}$ notch, so the series of notches probably didn't end at 29.

Anyway, I can't see why any hunter-gatherer would use a tally stick to track the phases of the moon down in Southern Africa, mainly because there's a much easier method: *you just look up at the Moon!*

The truth is that none of the ancients really needed to be able to count in order to track sidereal or astronomical time. They commonly just used stone markers as transits and astronomical alignments in order to tell important dates (such as solstices and equinoxes).

Even when John Harrison finally solved one of the greatest technical challenges of the 18th Century, by making the perfect marine chronometer for determining longitude, he did it by testing his invention using the only thing that gave enough accuracy in the that era: *an optical transit; the passing of fixed stars past the edge of his window frame on clear nights!*

What's far more likely is that the marks on the Lebombo bone are just decorations. According to my way of thinking, any claim for counting and tallying before the end of the Younger Drays should be taken with a pinch of salt. The reason being that the first people to really need counting with any precision must have been sedentary farmers and pastoralists. The only other possible need for proto-numeracy would have been for trade, but as the Pirahã people show, it's not even necessary for that.

If we ask ourselves the question, "when did humans first start counting?" I think what we are really asking is when humans started using numbers systematically, and hunter-gatherers only ever used numbers haphazardly.

The question is only important because we know from hindsight that numeracy led to mathematics and geometry and those led to rocket science. If counting only led to tiddlywinks the issue would be of no concern. So when I say that settled agriculture was the first genuine call for numeracy, I mean numeracy of the systematic type that has the potential to grow into something bigger.

Hunter-gatherers could count, just like they could name colors, but naming colors is probably never going to lead to a science that achieves applied engineering, and neither is tallying (or decorations) on a baboon bone.

Hunter-gatherer's numerical systems are usually small and simple. In Australia, there was no native agriculture, and as a consequence no aboriginal Australian languages have numeral terms above 20. As to South American hunter-gatherers, most languages have upper limits of fewer than 5.

About a third have no numbers past 10, and only the Huaorani people have numerals beyond 20. So when popular accounts of numeracy claim that there is archaeological evidence that humans have been counting for at least 50,000 years, that's misleading. It fosters the false assumption that numeral systems, mathematics, and writing were tens of thousands of years in the making, when the truth is genuine numeracy is only

about 10,000 years old. The “archaeological evidence” is not evidence of the beginnings of numeracy, any more than the naming of colors is. What we commonly think of as numeracy is actually “accurate accountancy”, and that only started very recently, on the backs of agriculture and statehood. What hunter-gatherers were doing was static and going nowhere. No Archimedes, Gauss or Euler was ever going to arise out of hunter-gatherer counting systems.

The mathematics that underpins all civilizations and empires must have originated from two things: counting or calculation (accountancy), and geometry. As usual, the clue is in the etymology. “Geometry” comes from the Greek word *geometria* or "measurement of earth or land”. No one but early farmers needed to start measuring the land. And no one other than herders of domestic animals had any need to count things. So the notion of counting or calculating before agriculture came about makes no sense.

The word “count” comes from the PIE root “*pau-“ meaning "to cut, strike, or stamp" (i.e. “notch”?). The words “calculate” and “calculus” are even more interesting. They originally refer to a "pebble used as a reckoning counter." The original root harks back to “chalk” (*calcis*), or "limestone" pebbles.

Why pebbles, rather than, say, chalk marks on a blackboard?

Let me tell you a story about how I learned how African herders count their livestock.

When I was still in my teens I was drafted into the South African Air Force and posted to a remote airbase in Namibia in order to man the air traffic control tower. South Africa was fighting SWAPO guerrillas who were trained just across the border in military camps in Angola. South Africa routinely bombed and dropped paratroopers (which we pejoratively called “meat-bombs”) on those camps on an unpredictable schedule in a cat-and-mouse game of counter insurgency. It was a complete mystery why the raids were becoming less and less effective.

Then, while I was at the base, a young African boy of about seven years old was taken in by the military police and interrogated. It turned out that SWAPO was using him as probably their best scout. He was caught because an observant gate guard at the airbase noticed that whenever a vehicle entered the base, the African kid would surreptitiously move a pebble from one little pile he had to another.

Day after day, whenever a vehicle left the base, he would move a pebble back to the first pile and then go back to playing with his friends at the side of the road. The gate guard suddenly realized what the boy was doing – he was counting vehicle movements in and out of the base the same way that African herders often count cattle going in and out of a kraal, or cattle enclosure, since time immemorial, using little pebbles as counters.

The point was that SWAPO could tell when one of their camps was about to be raided, because there would be a buildup of vehicles at the airbase in preparation for the raid. After this incident, the South Africans started faking vehicle movements in and out of the base so that raids were unpredictable and the attacks suddenly became much more effective again.

But that's how I learned that Africans keep track of their livestock by making two piles of stones; one represents the animals that are outside the kraal, and the other represents those inside. As the animals are driven out in the morning, they get counted blindly like a ticketmaster counting people with a ticket as they board or leave a ferry or a sports stadium. When they return, they are counted back in the same way, so the shepherds or herders know if they have to send out search parties for lost livestock.

When the pile of pebbles gets unmanageably large, there's an easy optimization – you just start grouping and substituting. You make bigger or different colored stones that represent more than one animal. So for example, as an early herder, nervous about losing your livelihood, you count cows using your fingers, and when you get to ten, you use the alien cortex's ability to condense frames and say to yourself that's one "frame" of ten cows, and you lay down a white pebble.

When you have one white pebble for each of your fingers, you condense that and replace them with one black pebble. Once again, ten black pebbles can be condensed and replaced by a red pebble and so on. You now have a compact counting system to base ten, and it's effectively infinite.

Soon someone figures out that the pebbles are better organized if you make holes through them and keep them as counters on sticks, and before you know it someone puts them in a moveable frame and you have an abacus.

Merchants, traders and clerks in some parts of Eastern Europe, Russia, China and Africa still commonly use abacuses to this very day. And abacuses are still used to teach arithmetic to children all over the world.

The important thing to notice about abacuses is that they are based on frames, and if you've been concentrating, you will know that frames (boxes, squares and geometrical objects) are the signatures of our alien cortex – numeracy really only starts with framing. When you get the idea that you "own" animals, rather than how animistic religions thought of them, as equal beings, then you prove that to yourself by locking them up in a pen. That pen, of course, is just a reification of a mental frame.

It's a bit sick when one really thinks about it.

To this day bean counters are bean counters and managers are bean counters. I think that the original progenitor of numeracy is a mindset of ownership, and the concept of "ownership" comes courtesy of our alien cortex (as does framing).

You only start counting when you have a strong feeling of ownership of a mass of undifferentiated things that are fungible or interchangeable, like slaves, cattle, taxpayers, or the children in the *Home Alone* family. And you only start measuring out the land when you need to settle squabbles between heirs, collect taxes, pay dowries, or divide up pasture amongst neighbors. Until then, there's not much point. Much of what we know about Ancient Egyptian mathematics comes from the Rhind papyrus.

The papyrus dates back to the period in history when the Hyksos people of West Asia invaded Egypt around 3700 years ago. The Hyksos have somewhat mysterious origins, and I think they are probably Aryans, but ever since the Nazis you are forbidden to say that, and for reasons of political correctness you now have to be vague and refer to Aryans by the neutral weasel phrase "Proto-Indo Europeans".

Since the Hyksos were a mixed race of mainly Semitic-speaking people, originating from Hurrians and Proto-Indo-Europeans (Aryans), I think it's likely that they were later overthrown and became the slaves who we then read about in the Bible as the "Israelites." If that's true, it's tragically ironic, because it means that the Nazi adulation for Aryans was actually an admiration for Jews (or at least the people they descended from).

The Rhind papyrus is revealing because it's divided into three books. Book I is about arithmetic and algebra, Book II is about geometry, and Book III is a collection of 91 miscellaneous problems and riddles.

The mathematical problems are all about how to equate different measures and fractions, how to divide up land and pasture, and how to apportion grain and bread. It's clearly the stuff of day-to-day agricultural business, and reads like a handbook for an imperial administrator or tax collector.

For example, in one problem a hundred loaves of bread are to be divided among five men. Another problem states, "Calculate the volume of a cylindrical grain silo with a diameter of 9 cubits and a height of 10 cubits." Many of the problems are calculations to determine the area of a tract of land. For instance, "A triangular tract of land has a base of 4 khet and an altitude of 10 khet. Find its area A in terms of setat."

It leaves one in no doubt that mathematics started out as a thing that only farmers, slave-owners and conquering tax collectors did. In all the hundreds of problems in the Rhind papyrus, none of them mention any calculations about women's menstrual periods.

Euclid of Alexandria is often referred to as "the father of geometry". But clearly he wasn't. The rudiments of geometry and arithmetic were all worked out thousands of years before in support of what we now call the Neolithic or First Agricultural Revolution. Euclid's mathematical treatise, *The Elements*, was a landmark because he provided logical proofs of books-full of mathematical assertions based on a

foundation of just five simple axioms or postulates, which he thought were so elementary they could be taken as self-evident.

Euclid is clearly taking farmers' and tax collector's tools, problems like those in the Rhind papyrus, and using them in a game. A dangerous game, as it turns out, which eventually led to the Applied Mathematics of the Atomic bomb, advanced electronics, and the machines of the modern age that are now clearly responsible for an ongoing mass eco-genocide. If only he had known!

Bertrand Russell, the mathematician who I mentioned before as the originator of Russell's paradox, said that his brother Frank introduced him to mathematics by means of Euclid's *Elements* when Bertrand was eleven years old. Russell wrote that, "This was one of the great events of my life, as dazzling as first love. I had not imagined there was anything so delicious in the world."

He said that it troubled him that Euclid required the reader to accept his five axioms of geometry without proof, but geometry itself was such a "wonderful game" that he was prepared to accept that as the price of entry.

However this lack of absolute certainty in his first love gave him trust issues that gnawed away at him over the years. He developed a growing need to search for absolute certainty in mathematics, which led him to investigate the realm of the fundamentals of mathematics. His quest led him to the Russell paradox, and eventually it led to the "pathology of mathematics" when Kurt Gödel, Alan Turing, Alonzo Church and others proved with absolute certainty that there was no absolute certainty in mathematics. It really was just a silly game, but for nearly a hundred years now teachers have successfully managed to conceal that dirty little secret from their long-suffering, and often despairing, mathematics students.

Like all alien cortexes with an overdose of testosterone, Euclid seems to have set out in the Elements with great gusto and certainty, and then come crashing down at the threshold of something akin to the disaster that befell mathematics in the 1930s. For centuries students have been pointlessly force-fed Euclid apparently for no other reason other than to fill up time in the school curriculum, and his comeuppance has also been successfully papered over by pedagogues through the years.

What seems to have happened is that Euclid confidently laid down four postulates and then went to work on his theorems. The axioms he came up with were:

1. A straight-line segment may be drawn from any given point to any other. 2. A straight line may be extended to any finite length.
3. A circle may be described with any given point as its center and any distance as its radius.
4. All right angles are congruent.

All well and good. Euclid was off to the races, but by the time he came to Proposition

29, he seems to have realized that the proof required that two parallel lines would never meet. Probably after many sleepless nights, and possibly much to his annoyance and the irritation of all would-be geometers to come after him, he had no other choice but to add a fifth postulate, and it was an inelegant monster of ugly prolix:

> If a straight line intersects two other straight lines, and so makes the two interior angles on one side of it together less than two right angles, then the other straight lines will meet at a point if extended far enough on the side on which the angles are less than two right angles.
>
> - Euclid, *Elements*, Book 1, Postulate 5

While the first four postulates seem so simple and intuitive it hardly seems one could doubt them, the Fifth postulate is so unwieldy its barely understandable. Many people have claimed that the postulate isn't even true. For example, as every line of longitude on the Earth demonstrates, on a curved surface Postulate 5 is definitely false, otherwise lines of longitude would never meet at the Earth's poles as they do. Friedrich Gauss discovered the existence of these so-called "non Euclidian" geometries in the 19th Century but presumably out of shock and deference to Euclid he suppressed his findings.

Over the centuries many mathematicians have tried to tame this monster and come up with proofs of the Fifth postulate, but to no avail.

Nuisances like this, followed by various forms of cover-up seem to be a running theme throughout the history of mathematics.

For example, Ancient Egyptian surveyors noticed that if you took a loop of string and made 12 equidistant knots in it, when you stretched out the string in a triangle so that there were three knots on one side and four knots on the other, then the third side had five knots and the corner opposite was a perfect right angle. Which was rather handy for a rectangle-obsessed alien cortex.

That simple observation has come down to us as the Pythagorean theorem, which no doubt you remember from school when some vexed teacher tried to sell your primate brain on the idea that, against all evidence, "maths is fun" (and being rational is our highest goal).

Most mathematics teachers still harbor a naïve and totally unwarranted faith in the certainty, completeness and consistency of their subject, and many have never even heard of Gödel, Turing or Church. Those that have heard of them usually keep them in strict quarantine ("out of frame") otherwise they can't sleep at night.

It should come as no surprise that according to legend, one of Pythagoras' followers, Hippasus of Metapontum, made the shocking discovery that if you take a right angle

triangle with sides of unit length, then according to his master's iconic theorem ($a^2+b^2=c^2$), the hypotenuse has a length of $\sqrt{2}$. The problem is, when you come to work out the exact algebraic number that the $\sqrt{2}$ represents, it can't be done. The $\sqrt{2}$ is an infinite non-recurring decimal. The ultra-rationalist Pythagoras had actually inadvertently spawned the discovery of the first *irrational* number. Central to the belief of Pythagoreans was that "everything is number."

They thought that every number was a quantity that could be expressed as a ratio of two other integers. It was all *rational* and therefore the entire universe was rational. It's no wonder that by some accounts the Pythagoreans chucked Hippasus in the sea to cover up the fact that their master was wrong. It must have been salting the wound to have that proven with Pythagoras's very own celebrated theorem!

One of the strange things about irrational numbers is that by far the majority of all numbers in mathematics are irrational, because there are an uncountably infinite number of irrational numbers and only a countably infinite number of rational numbers. If Pythagoras was right about his belief in the transmigration of human souls, then I imagine that one of his embodiments is now cowering in a corner somewhere as a gibbering wreck.

Whenever this kind of awkward unpleasantness cropped up in mathematics, the general pattern was always to just ignore it and forge ahead as if nothing had happened. God forbid that there was something fundamentally wrong with pure mathematics or the pursuit of rationality itself!

When negative numbers were discovered, most people rejected them because it didn't seem possible to hold less than zero apples (or pebbles) in your hand. Eventually we just learned to think of negative numbers as a debt and carried on calculating.

Around the year 1545, the Italian mathematician called Gerolamo Cardano realized that the solution to the quadratic equation $x^2 + 1 = 0$ was $x = \sqrt{-1}$. There was no real number that could fulfill the property of $\sqrt{-1}$, because any positive number squared is positive and so is any negative number. Even if there is such a thing as a "negative area" it didn't seem possible to work out the sides of such a beast.

And yet it was difficult to ignore such quadratic equations entirely because they seemed to crop up all the time. So in the end, we just called them imaginary numbers and labeled them the "imaginary unit", or *i*, and just carried on calculating! René Descartes originally coined the term "imaginary numbers" in the 17th century and it was intended to be a derogatory term because he regarded them to be fictitious and useless. But Leonhard Euler and Gauss continued using them happily and they have since proved very useful in applied fields, especially in electronics.

While out of one side of their mouths physicists often claim haughtily, in an echo of Pythagoras, that mathematics is the "language of the universe", the truth is that by the

time we got to Quantum theory, when confronted with the question, "What is Really Real?" they were reduced to just telling students: “Shut up and calculate!” That’s pretty much always been the pattern when the inherent uncertainty in mathematics rears its ugly head.

Our left-hemispheric Brain slug craves a sense of certainty from mathematics that it just cannot give, but we are clearly deeply in denial.

Time and again, on the occasions in the history of mathematics when the veil has slipped and we’ve seen that our alien cortex’s beloved subject is not the paragon of perfection that we want her to be, we have always just patched things up so that, like Russell, we can continue our love affair with her. But ultimately it’s just our alien cortex’s ongoing love affair with our right hand. Not to put too fine a point on it, mathematics is just a form of mental masturbation. It’s our alien cortex’s most sincere form of self-love.

No doubt tech-nerds and math teachers will clamor, “But math got us to the Moon!” To which I would point that one can hardly think of a better example of a pointless exercise in self-masturbation than the American mission to the Moon. By the time we get to Kabala and Gematria, you can see our alien cortex clearly getting lost in its own fantasy.

The Ancient Greeks had a belief in what’s called “isopsephy” and I’ve met many Greeks that still believe in it today. It’s a mystical idea that if you add up the number values of all the letters in a word, the total you get is a magical bridge to other seemingly disconnected words that share the same sum. The word “*iso*” means “equal”, and “*psephos*” means “pebble" (see what they did there?). Gematria is the equivalent practice in Hebrew and English and this kind of numerology crops up in everything from Freemasonry to Jewish and Christian mysticism.

The most famous example is “The Number of the Beast” in the Book of Revelation. Revelation 13:18 says: "Let him that hath understanding count the number of the beast: for it is the number of a man; and his number is six hundred threescore and six." The word “count” here is ψηφισάτω, which is “*psephisato”*, the same root as the word “*isopsephy*” - "pebble."

The number referred to as “666” is the Greek for “Neron Kaisar” or “Caesar Nero.” When transliterated into Hebrew gematria it equals "six hundred and sixty-six." *Abraxas* was the highest deity in Gnosticism and eventually became the name of a demon in occultism. According to gematria, the mystical word “Abraxas” has the number 365 in Greek. In the Mithraic Mysteries in Ancient Rome, the Aryan deity Mithras (Akkadian for "contract") was the god of friendship, contract and order.

Since the Greek for Mithras also summed to 365, if you believe in gematria then there must be some sort of ahistorical, mystical equivalence between Mithras and Abraxas. Thanks to our brain’s hunger for pattern recognition, it doesn’t take long for

true believers to either find or manufacture a link between them, but our alien cortexes are master confabulators and have no trouble finding a link between *calcis* and cheese.

Hopefully you accept that if words originated as we described earlier, then gematria is nonsense, because the numerical values that were calculated for words much later in history have no bearing on their origins and so any gematric associations are purely imaginary. But I use it as an example of how lost our alien cortex can get in its own inventions.

> "What's in a name? That which we call a rose / By Any Other Name would smell as sweet."
> - William Shakespeare, *Romeo and Juliet*

And to think that we haven't even got to its culture, civilizations, machines, computer languages and virtual reality yet!

We've come a long way from the Tower of Babel, but before we move on from numeracy and language, there is one more question to answer: *Why are there so many languages?*

Why are languages so confused and jumbled ("Babel", to use the Hebrew word)? Why don't we all still just speak Adam's language?

In Plato's Cratylus it says that Hermes (the Roman God Mercury) was a trickster figure who invented language to both lead and mislead people.

It's from Hermes that we get the word "hermeneutics", which is the art of the proper interpretation of words – a very tricky business indeed. Hermes is the messenger of Zeus, and Zeus, of course, is a personification of our alien cortex by our alien cortex. The Latin word "*deus*" (as in "deus ex machina", or "god from a machine") comes from the Greek Zeus, and hence our words "deity" and "deification". The Ancient Greeks said, much like Genesis, that humans first spoke the language of Zeus.

In Cratylus, Socrates takes the view that all things have a "correct" or "appropriate" name that may be corrupted over time. Another character, Hermogenes, argues that names are arbitrary and come about simply because of custom and convention, so different communities may name the same things differently (and hence we have numerous languages).

At the end of the book, Cratylus, a disciple of Heraclitus, concludes that names derive from divine origins, making them necessarily correct – which is a good justification of gematria (though he doesn't say so). There are about 7,000 languages in the world, but they are dwindling rapidly as we head for a homogenous global monoculture. We are losing languages at the rate of about one per week, and its estimated that half will be

gone in the next hundred years (assuming any of us are still around by then).

Research shows that languages typify very different ways of thinking. For example, some indigenous Australians don't have words for "left" or "right". Instead of orienting themselves bodily as Westerners do, they refer to cardinal directions. So while you might say you have a ring on your left hand, they would say you have a ring on your southern hand.If you turn around, you now have a ring on your northern hand!

While English speakers tend to think of a time sequence going from left to right (the way we English speakers are taught to write), indigenous Australians would arrange the same sequence from East to West (the way the sun transits the sky) no matter which way they were facing.

Similarly, the Pirahã people don't refer to "past" or "future", they say "upriver" or "downriver" (since a river is always close to hand). Certainly some differences between languages must have come about through gradual mutation and drift, analogous to the way the DNA "text" in our genome drifts in isolated populations. As George Bernard Shaw is supposed to have quipped, "The United States and Great Britain are two countries separated by a common language."

In Agatha Christies *Murder on the Orient Express*, Poirot the detective exposes one of the suspect's background stories as phony, because she said, "I can always call my lawyers long-distance."

According to Poirot, "An Englishwoman who had never lived in America would have said, 'I can always make a trunk call to my solicitors.'"

Linguists know that languages evolve according to surprisingly rigid rules, and they can glean a lot about prehistory merely by studying a language. The morphological rules of language and grammar have a kind of meta logic. Phonological rules even allow linguists to have an insight into the computations the human brain performs when producing or comprehending spoken language.

Research into sound changes in language assumes that the changes are regular and follow rules. For example, Grassmann's Law states that in Ancient Greek and Sanskrit, that if an aspirated consonant is followed by another aspirated consonant in the next syllable, over time the first one loses the aspiration. The first discovery of a systematic sound change was Grimm's Law and it led to the whole discipline of historical phonology.

Grimm's law is about a kind of "chain shift" in Proto-Indo-European languages – voiceless stops change into voiceless fricatives, voiced stops become voiceless stops, voiced aspirated stops become voiced stops or fricatives.

Without actually knowing the original Proto-Indo-European (Aryan) language, historical phonology and linguistics has helped us determine a surprising amount

about the Aryans. For example, their society was Patriarchal and inheritance was through male heirs, they domesticated horses and invented the wheel (for chariots) etc. And all this just by studying daughter languages descended from Proto-Indo European, without needing any archeological evidence.

But aside from natural drift, I think there is one other reason for why languages proliferated in a kind of Tower of Babel syndrome. It was *deliberate*, because the alien cortex is competitive, secretive, and protective. This is the divisive aspect of language that is highlighted by the Tower of Babel story.

You can see this in a lot of professions that tend to generate jargon for jargon's sake. In order to emphasize the in-group and ostracize the rest, humans have a tendency to tribalize languages. Slang and colloquialisms are also a way of enforcing social barriers among the "in crowd." A private lingo helps keep a craft guild closed and instantly flags imposters who try to bluff their way in.

For example, unless you actually work in tech, it might surprise you to learn that computer technicians would die of embarrassment to be caught using the word "computer." You can say "my laptop", "my server", or more usually "the machine", but saying "computer" makes you sound like an amateur.

Lawyers are prime examples of professionals who go out of their way to use language in as arcane a way as possible. Sailors also may have been some of the first to realize that there's a lot of job security in jargon. When I was forced to learn Latin at school, whenever we schoolboys complained about having to learn a dead language we were told that it's more 'accurate' and precise than English, so therefore it was good for teaching us more rigorous thinking.

But of course we all knew that Latin was in use for so long in Law, Medicine, and the Church merely because of its exclusivity and snob value. Most conquered people aspire to speak "the language of the royal court".

Four thousand years ago, a student scribe in ancient Mesopotamia wrote, "The Sumerian teacher said, 'Why did you speak Akkadian?' And he caned me." Akkadian was the common native vernacular at the time. As a student scribe, he was required to speak only the language of bureaucrats and administrators, the tongue of the Sumerian conquerors. Akkadian gradually replaced Sumerian, but Sumerian continued to be used as the sacred, ceremonial, literary, administrative and scientific language in Akkadian-speaking Mesopotamian states.

To this day, when we use plain English words they are more likely to be Saxon or Norse (e.g. burn), and when we try to sound sophisticated we automatically revert to using the Latinized equivalents of the same words (e.g. incinerate) – unconsciously mimicking the speech of our conquerors in order to sound superior.

When John Wycliffe translated the Bible from Latin to the common vernacular in 1384,

it was an act of dire insurrection against the priesthood. Before Wycliffe came along the priesthood could claim the Bible said just about anything they liked, and no one was the wiser, because they were about the only ones who spoke Latin.

So if your local priest claimed the Bible said you had to keep him supplied with free beer, or he had prima nocta rights over your daughters or sons, everyone had to play along, until Wycliffe came and ruined everything for the Church. Not surprisingly, the King and Catholic Church in England launched a drastic campaign to suppress his work.

Although we are indoctrinated to think of the written word as a wonderful thing, I can't help feeling it's really a kind of weaponized version of language. It's primarily an instrument of control and coercion. Even the text you are reading here is not free of a persuasive agenda.

When did you last read something that didn't have an angle?

Authors are by definition "authoritative" and "authoritarian" (from the PIE root "*aug-" "to increase"). The written word will always be tainted by an aura of coercion, bondage and control.

> To be governed is to be at every operation, at every transaction, noted, registered, counted, taxed, stamped, measured, numbered, assessed, licensed, authorized, admonished, prevented, reformed, corrected, punished.
>
> — Pierre-Joseph Proudhon, *General Idea of the Revolution in the Nineteenth Century*

As soon as King William the Conqueror conquered England in 1066, he sent his men out all over the country to do a "Great Survey" of the entire realm down to the last pig and chicken. The result was called the *Domesday Book,* so called "because its decisions, like those of the Last Judgement, are unalterable".

No one could appeal the "Doomsday Book", and its purpose was to let William know exactly how much he could shake down every last one of his new subjects in taxes. There are good reasons why the first act of many peasant rebellions has been to burn down the local records office. And it's worth noting how records today cannot be stored or retrieved when the power grid is down.

I find it tragically amusing that there is apparently a meme amongst Gen Z that the invention of the Internet marks a kind of "locked in" human achievement, which we can never fall back from. Apparently, according to this belief, humans never have to fear going back to the Stone Age now because the Internet means there is a body of knowledge and power that can never be erased or lost. Apparently they don't seem to realize that none of that knowledge can be accessed if (or rather when) the grid goes down.

In my mind's eye I kind of imagine millions of these poor little lambs using the last power on their dying phones to desperately Google: "How do you access the Internet without electricity?"

All of this linguistic oppression is due to digital communication, and that comes from our grasping hand and the alien cortex.

The unknown author of John's Gospel wrote (John 1:1): "In the beginning was the Word, and the Word was with God, and the Word was God. He was with God in the beginning. Through him all things were made; without him nothing was made that has been made."

I doubt that our alien cortex ever wrote with greater sincerity about Wernicke's area, Broca's area, its mind map and itself. But in those words we see the first signs that our alien cortex was seriously starting to bewitch itself and begin to bedevil the planet. But it could only do that when it had yoked language, writing, and numerical accounting into bureaucratic administrative systems that allowed huge communities and their slaves to cooperate in a hierarchy. In the next chapter we'll examine how and why that came about.

# **Chapter 2:** Genesis of the Alien Cortex

What's the hidden tale behind the monkeys without tails – the eight "Great Apes" or *Hominids*? And why did one of them – us – become so numerous, so dominant, and even suit up and lope about on the Moon, while our seven cousins hang on the edge of the endangered species list by their fingernails and presumably hardly ever even gaze up at the stars?

What set us on such different evolutionary paths? And how come the track we are on now seems to be headed for the destruction of our whole primate family and our home planet?

Thanks mainly to our species, five of our evolutionary cousins are "Critically Endangered" (orangutans and gorillas) and two (common chimpanzees and bonobos) are merely classed as "Endangered". The IUCN Red List of Threatened Species lists us in the conservation category of "Least Concern." But an increasing number of forward-looking ecologists, anthologists, environmentalists and futurists are not as sanguine. Like bacteria in a fermenting vat before their last and fatal doubling, if you take a snapshot-in-time of our species then we are probably in our heyday. But we are also probably at, or nearing, "peak human".

In January 2020 the infamous Doomsday Clock was set to the closest it's ever been to midnight – a mere 100 seconds short. Yet optimistic writers, like Steven Pinker, are at pains to point out that in "measure after measure, things have never been better." F*or humans*, that is.

For most wild species outside the orbit of our domestic arrangements, things could hardly be worse.

More insightful observers, like mathematician Sidney Smith, who take food, fresh water, waste, sources of energy, lack of biodiversity and human habitat, overpopulation and anthropogenic climate instability into account, come to the opposite conclusion. They think that, thanks to the very successes that Pinker celebrates, we will probably not survive the Holocene mass extinction event – a cataclysm of our own making. By cherry-picking a few positives, millenarian utopians like Pinker find it all too easy to brush off the dire big-picture dynamics of global overshoot, drawdown, collapse and unavoidable species extinction.

Aside from such extreme points of view, how did our species get to such an extreme? What accident of evolution took us on such a wild excursion away from our closest primate relatives?

The 20$^{th}$ Century saw a veritable cottage industry of theories to explain why humans were unique amongst primates (*sotto voce …* "superior" in the *scala naturae* or

medieval Christian “Great Chain of Being”). Plausible theories were lined up like a coconut shy and knocked down one after another.

One popular theory held that *making and using tools set our species apart*. Then researchers were shocked to discover that chimpanzees (*Pan troglodytes verus*) in southeastern Senegal routinely fashioned spears and used them to hunt bushbabies for meat.

Jane Goodall discovered wild chimpanzees making specialized toolkits for foraging army ants, and soon various primates were found to use rocks as tools to crack nuts. Observers have even seen both bonobos and chimpanzees making "sponges" out of leaves and moss that they use for grooming.

Darwin had a whole section on primates using tools in his book, *Descent of Man* (1871), but it seems to have been somewhat overlooked. He even mentioned baboons in Abyssinia having pitched battles, where one species used boulders as weapons and rolled them down on their rivals. So much for our uniqueness! If tools were not the key, others claimed that *what set humans apart was “culture”.* The theory claimed that humans were uniquely able to transmit behaviors socially, through cultural learning, whereas other primates could not. In the finest millenarian tradition, pedagoguery supposedly allowed humans to bank knowledge from generation to generation and therefore gradually accumulate the know-how to make the internal combustion engine, penicillin and rockets to reach the Moon.

However, in the 1940s Japanese primatologists made the rather inconvenient discovery that macaques serendipitously discovered that sweet potatoes could be washed and salted in the sea and they transmitted that cultural invention/habit down the generations to this present day merely by active learning. So culture was definitely not unique to humans. By the 1990s the “cultural primatology” section of the library was overflowing with books about animal culture, and in particular chimpanzee culture. Another theory in the history of the human struggle for Apartheid from other primates held that *language was the key differentiator*.

Famed linguist Noam Chomsky claimed that only humans had language. That idea bit the dust in the 1970s when cognitive scientists at Columbia University taught a chimp, scurrilously named *Nim Chimpsky*, to string sentences together using sign language. However, Herbert Terrace, the man who led the project, eventually became the most vocal critic of “animal language.” Although Nim learned about 125 signs, he was unable to learn syntax or the importance of word order.

So Terrace concluded that no chimp could meaningfully master the art of language. “Animal language” is still controversial and hotly debated by the only species that claims linguistic ability exclusively for itself. It’s hard to untangle whether animals are just clever mimics, merely automatically responding to stimulus (like *Clever Hans*, a horse that looked like he could do basic arithmetic until it was revealed he was just responding to his human audience) or if they are genuinely communicating complex

thoughts and feelings.
Parrots are one of six groups of animals that develop some form of verbal language in order to function socially. The other six are various cetaceans, songbirds, bats, hummingbirds and primates. Some other animals also instinctively know how to vocalize and interpret the signals their species rely on to communicate and survive. For example, vervet monkeys use different alarm calls for different predators.

The "snake" call makes them stand up and scan the ground, the "eagle" call makes them look up and scatter, and the "leopard" call sends them racing to the tops of the trees. This is all evidence of predator classification and semantic communication, so with such a great start, why haven't monkeys evolved to hunt leopards to extinction with rifles the way we have? We are both close cousins and it wasn't that long ago that we shared a common ancestor.

So how did we turn the tables on our mutual ancestral enemy and tame it to become the domestic cat, while our other close cousins failed to?

At the end of the 20th Century, many researchers hoped that the answer to our supposed uniqueness would be revealed in our genes.

In 1990, the Human Genome Project (HGP) was launched with the aim of sequencing the entire human genome and identifying all specifically human genes. Scientists waited with great anticipation, optimistically expecting that a cornucopia of information was about to explode onto the scene. They eagerly anticipated finding the "gene for" everything one could possibly imagine. The "gene for" heart disease, sickle-cell disease, clinical depression, schizophrenia, maybe even the "gene for" suicide or cancer seemed on the cusp of being discovered, with the implication that there would be breakthroughs in the treatment of everything that ails our species.
Finally it looked like we would get a complete insight into what really differentiates us from other primates. Excitement built as the book on what makes humans human looked like it was about to be opened (and closed) once and for all. In 2000, biologists literally started making a book to bet on the number of genes in the human genome. At the annual Cold Spring Harbor Genome Meeting, attendees took $1 bets on how many genes the human genome would turn out to have when sequencing was finally complete. The mean prediction was 61,170 genes, with the lowest guess at 27,462 and the highest at 153,478.

In 2003, biologists were flabbergasted to discover that the human genome had only somewhere in the range of 20,000 to 25,000 genes!

When you consider that the human brain alone has 86 billion highly organized neurons, that seems like a very compact instruction set for our entire blueprint. With so few genes, the whole notion of a "gene for" this or that had to be dropped (in all but the popular press, where it's still in fashion, much to the chagrin of geneticists).

Somewhere in that meager stock of physical functional units of human heredity was the crucial 4-letter coding difference between Noam Chomsky and Nim Chimpsky. By 2005 the chimp genome was finally sequenced and it turned out that our genes are about 98% similar.

We are actually about close enough to successfully interbreed. Rumors of the "Humanzee" have circulated since the *Tarzan* movies came out in the 1920s, and in 2019, human-monkey chimeras were almost certainly created at the *Salk Institute for Biological Studies* in the US. But don't expect research like that to ever get published! Bigotry and inter-primate Apartheid are still too firmly entrenched in our culture to allow things like that to get through a wall of massive academic censorship.
The genetic difference between individual humans is about 0.1%, on average.

The average difference between the chimpanzee (*Pan troglodytes*) and bonobo (*Pan paniscus*) genomes and ours is about 1.2%. Gorillas turned out to diverge from us by about 1.6%. The Asian great ape, the orangutan, diverges from us African apes by about 3.1%, and rhesus monkeys by about 7%.

The age-old philosophical debate about what constituted the divide between humans and other apes was clarified in 2011 when landmark research pinned down what the essential genetic differences coded for (in as much as the concept of a "gene for" something is valid). In a rather humbling discovery, it turned out that humans had not *gained* genes that our ape cousins do not have, but rather just *lost* a few. What makes humans human is that we *lack* about 510 short sections of DNA that other apes still enjoy. We are not chimps *plus*; we are actually chimps *minus*. Most of those lost genes disrupt how other parts of the genome are expressed

They are basically genetic switches.

When scientists looked at what the switches did, they found that it was essentially just three things. They enhanced the growth of sensory whiskers on our faces, they caused us to grow nasty penile "spines" or "spikes", and they restrained the growth of our brains. So losing those genes meant we lost our whiskers, males (mostly) lost the spikes on their penises, and we lost the brakes on our neural development.

In particular our genes fail to contain the runaway growth of a region of our brain called the *angular gyrus*, which is associated with abstract thoughts and concepts. Once again, it turned out that we were stymied in our quest. We had come full circle right back to what we mostly already intuitively knew. Our anthropocentric bigotry hardly led us anywhere.

In the end, it turned out that the fundamental difference between us and other primates was all in our heads – essentially just in what's often colloquially called our "little head" (penis) and what's pejoratively called our "big head" (our brain, or ego). Basically we are just little pricks with big heads.
No surprise.

We've always had a big head about how big our heads are. Though it's worth pointing out that if our heads weren't so big, we would not be in the Anthropocene extinction event today. Pride comes before the fall and a big head comes at a very high price (not to mention a high mortality rate at birth and about 20% of our body's energy throughout life).

It's also worth noting that since the discovery of the archaic human remains of *Homo naledi*, scientists now understand that small brained humans co-existed alongside bigger brained contemporaries for long stretches of time, so they no longer believe in the popular notion that a bigger brain confers an evolutionary advantage. The benefits of having an alien cortex are not as great as our alien cortex usually assumes. Factor in apparently unavoidable self induced human extinction and any supposed benefits quickly evaporate.

The trouble is that our alien cortexes have turned the whole picture upside-down. Therefore, when it comes to the question of what put our species on a radically different evolutionary trajectory to our primate cousins, I suggest we invert the whole problem. Genetic analysis confirms what's always been obvious; that the major difference that divides us from other apes is mostly neurological. So why not just turn the whole problem on its head?

Let's take the delta between the human brain and the chimp or bonobo brain, call that the "Alien Cortex", and then just reflect on what it does and why. Doing that, straight away we can see that we are right in the realm (if not completely down the rabbit hole) of where the alien cortex is well and truly trapped in a rather nauseatingly distorted Hall of Mirrors of self examination and self-contemplation. Since alien cortexes self-evidently love to analyze, criticize, categorize, systematize, contextualize and bowdlerize before they feel they have satisfactorily conquered, cognized and "solved" something, that's the reason my alien cortex offers yours the Layered Brain Model as an easy tool for your alien cortex to understand and cognize itself in its own native language.

The model is really just an aid for self-discovery, and potentially an aid for self-annihilation, but let's get back to that later. If an alien cortex can satisfactorily "solve" the riddle of itself, there really isn't anything much left for it to do in life. In essence, it's dissolved itself.

In the words of an old African saying, "If any man could tell his whole story, he would save us all."

I'm very fond of George Wald's quote (often misattributed to Niels Bohr via a misquote): "A physicist is the atom's way of knowing about atoms." In much the same way, I think that the alien cortex is just Universal Consciousness' way of looking at itself. But thanks to our big heads, we have got ahead of ourselves (if you'll excuse the pun). Let's hope our alien cortexes are also potentially the means to get back to ourselves.

If we claim that our “Primate Brain” ends with our neurological inner-chimp and our “Alien Cortex” is the remainder, what does it tell us?

Chimp’s brains are about a third the size of our brains. So the evolutionary explosion that occurred when we branched off from our common ancestor (chimps and bonobos branched off from each other later) was due to us having genetic brake-failure in our neural development, which resulted in what’s conventionally called the neocortex (i.e. “new rind” or “new tree-bark”).

If a chimp happens to be looking over your shoulder, don’t worry. What’s written in this text is just between you and me. A chimp could never understand it, not just because it’s badly written, but also because they lack an angular gyrus like ours. As you read these letters, the part of your brain that’s functionally exercised most is in parts of your parietal lobe (mainly in the left hemisphere). These are parts that chimps simply don’t have

.

The angular gyrus transfers visual information (like this text) to Wernicke's area, which gives the words meaning. Apart from processing language, its involved in making music, symbology, numeracy, spatial cognition, retrieving declarative memory, holding attention, and granting us a theory of mind. A “theory of mind” gives (some of) us the ability to compute that others are capable of mental computing too.

When my angular gyrus remembers the Hindu goddess *Saraswati*, it thinks that ancient alien cortexes must have intuitively conjured up Saraswati to symbolically represent the angular gyrus itself. That kind of mental conjuring trick is what the angular gyrus does, and Saraswati is the goddess of knowledge, art, music, language, writing, mathematics and all things singularly angular gyrus-like. But knowing all this doesn’t really explain to Saraswati how she happened to come on the scene. We are still stuck with the question of how chimps (perhaps represented in the Hindu pantheon as *Hanuman*, the monkey god) made the leap to Saraswati.

Animal behaviorists (e.g. ethologists and primatologists) theorize that it probably had something to do with getting our emotions under control. The angular gyrus is indeed very important in regulating emotions. What researchers observe is that humans are much better at suppressing their emotions than other primates. They point out that random strangers can sit on a crowded passenger plane for hours and emerge relatively unscathed, whereas if you tried a similar experiment with the same number of chimps, the cabin section would be a bloodbath before the flight even took off.

Gang violence aside, even in the confines of a prison yard humans usually do much better than chimps.

Most of our primate cousins are too emotionally reactive to cooperate very effectively

with each other or to mingle with strangers, and cooperation is considered to be the breakthrough. But the question of why our ancestors gained the ability to suppress their emotions has not been adequately answered. Because we (or our alien cortexes) are preferentially anthropocentric, it may seem naturally intuitive that, as you were probably schooled to think, cooperation and anger management are naturally superior behaviors.

However, that's not automatically true. Again, that's mostly just the bias of our species asserting itself.

Emotional hyper-reactivity as a response to strangers is not a bad evolutionary strategy by any means. For one thing, it makes sense from the point of view of containing disease and maintaining low enough population densities to protect the local environment from overexploitation.

Going back to the hypothetical example of chimps on a passenger jet, consider that the Covid-19 pandemic could not have happened without air travel and very high human population densities. So if humans were emotionally incapable of calmly interacting with strangers in cities and on transport networks we would have been spared the pandemic (not to mention greenhouse gas emissions, global habitat destruction, and possible human extinction from overexploiting our natural habitat). So if the part of our alien cortex that suppresses the primal emotional responses of our primate brains is the first neurological building block that eventually leads to modern human behavior and Saraswati, what was the original trigger than set us on that evolutionary path?

I would propose that it's fire.

Few would disagree that at some point fire (and in particular, cooking) becomes a primary determinant in our evolutionary development.

The question is, *how*.

*You'll see it's true (shoobedeedoo)*
*An ape like me-e-e (scoobeedoobeedoobeep)*
*Can learn to be*
*Human too-oo-oo!*

*Now, don't try to kid me, mancub*
*I made a deal with you*
*What I desire is man's redfire*
*To make my dream come true*

*Now gimme the secret, mancub*
*Come on, clue me what to do*
*Give me the power of man's red flower*

*So I can be like you*

— Louis Prima*, I Wanna Be Like You (from The Jungle Book)*

In popular culture, humans are generally assumed to first get into the pyrotechnics business when the human equivalent of Sid from the movie *Ice Age* starts rubbing sticks together or when the Flintstones start banging flint stones together. There's a famous line from a newscaster in Douglas Adams' comedy that goes:

*"We'll be saying a big hello to all intelligent life forms everywhere and to everyone else out there, the secret is to bang the rocks together, guys."*

— Douglas Adams, *The Hitchhiker's Guide to the Galaxy*

But using tools to make fire must have been a late development by people who were intimately familiar with the result. Our ancestor's use of fire must certainly have been opportunistic at first.

Humans and chimps/bonobos split off from a last common ancestor as recently as 4 million years ago. The first evidence for hominids controlling fire starts to trickle in from about 1-1.7 million years ago with *Homo erectus* ("upright man") in Africa. With its characteristic arrogance, our alien cortex usually expresses the story as "mankind eventually tamed fire", but I think the secret to the alien cortex is that fire tamed us, rather than the other way round.

I would propose that we evolved a module in our brains (which would eventually blossom into our alien cortex) that was originally useful in suppressing our fear of fire. The genesis of the alien cortex was when our angular gyrus gained the ability to suppress the natural flight response that was habitually triggered by our amygdala (or reptilian brain) when confronted with fire.

Once we evolved the ability to artificially suppress our amygdala through an act of sheer willpower in this one respect, it spilled over and we gained self-control in all sorts of other ways.

As Winston Churchill said, "Courage is the first of human qualities because it is the quality which guarantees the others."

That may have been truer than he realized, given the far-reaching consequences of our ability to control our baser emotions. Self-pacification is the crucial differentiator that led to our self-domestication and ultimately Civilization itself.

Eventually it allowed us to modify the natural human habitat and engage in evolutionary "niche construction" of a new habitat preferentially suited to our alien cortex. By altering our local conditions to preferentially favor "tameness" or "impulse

control" it encouraged the development of our alien cortex in a self reinforcing feedback loop.

That process is accelerating. Although the human brain is shrinking overall, the part devoted to the alien cortex is actually increasing in volume.

It often comes as a surprise for people to learn that the human brain is getting smaller as it evolves, but since the Stone Age, our neural matter has suffered a relative reduction of at least 10-15%. The average human male has lost the equivalent of about a whole cat's brain in the last 40,000 years. That's due to domestication.

In general, domesticated animals are usually scrawnier, smaller, and stupider than their wild cousins. Humans are no different in that respect.

You may think that your pet poodle is super smart, but any wild wolf would be much smarter. Like all domestic animals, what we actually did as we domesticated dogs is selectively breed them for a very narrow set of behaviors that appeal to us, at the expense of their overall intelligence. And we've inadvertently done the same thing to ourselves through self-domestication. To this day, and at an ever-increasing rate, our alien cortex is self-selecting for itself with every college admission test, job interview or judicial hearing.

Even in democratic political elections, leadership promotions and board nominations, it seems we are just increasingly breeding psychopathic monomaniacs – essentially über alien cortexes that are ever more challenged in the four other brain layers. And those leaders and the prevailing social ethos they foster tend to pacify, tame and selectively breed the rest of humanity for domesticity at an ever increasing rate.
It wasn't long ago that teachers would claim during classes in Evolution that ever since "modern" (i.e. alien cortex-dominated) times, humans are no longer subject to the forces of natural selection and Darwinian evolution.

They taught (and some of the more ignorant ones still do) that humans stopped evolving once civilization began. According to them, we now supposedly stand aloof from Nature. The logic seems to have been that since urban dwellers don't have many natural predators pursuing them down the streets, and things like healthcare are supposed to have addressed infant mortality and mostly thwarted disease, therefore we no longer have any evolutionary pressures to shape us. But their alien cortexes seem to have forgotten our endogenous predator: *the alien cortex itself.* After about 2015, when geneticists started looking for signs of recent evolution in humans, they were surprised to find that we are not only still evolving, but evolving ever more rapidly. Most of that evolution seems to be in the regions of human brain development.

One such fast-evolving gene is human accelerated region 1 (HAR1). Scientists are still mystified as to the cause, but now you know the answer. At this point we stand on the threshold of almost magical abilities to manipulate our own genomes, and the

genomes of future generations, using artificial gene editing techniques like CRISPR and the “gene drive”. It’s easy to predict that the alien cortex will preferentially manipulate our genome according to its own self-interest. The most prized attribute in future designer-babies is bound to be a higher-than average IQ.

The “marshmallow test” is a celebrated experiment in social science research where a child’s ability to resist immediate gratification for a greater reward later is a strong signal for future success in modern life. That impulse control and delayed gratification comes courtesy of the alien cortex’s ability to suppress the older functional strata of the brain in all but the most extreme circumstances. So just like the standardized IQ test, the marshmallow test is an indirect measure of the strength of a child’s alien cortex, or at least its ability to override or inhibit the rest of the brain.

What is never pointed out is that a similar ability in a wild chimp would almost certainly prove fatal. In the hand-to-mouth existence of a wild primate, *it pays to be hand-to-mouth!*

Psychologists in behavioral economics consider the human tendency towards “hyperbolic discounting” of future events to be a poor choice and an undesirable bias to be saddled with. For one thing, it hints at a detrimental lack of self-control. But that’s only if you live in the modern world – the artificial, more predictable world constructed by the alien cortex. Out in the uncertainties of the wild, a bird in the hand really is worth two in the bush.

So the fact that self-control in humans is beneficial is only because the self controlling module in our heads (i.e. the alien cortex) has constructed an environmental niche (the modern urban environment and a highly technical civilization) where such unnatural abilities – and hence itself – can thrive.

The whole thing has come full circle now, because global industrial civilization (the end result of chronic over-domestication) has probably overshot the planet’s ability to sustain it much longer, yet over-domesticated humans are powerless to alter our trajectory because we have evolved to become too passive to resist authority figures (i.e. alien cortexes). Psychopathy on the one hand, and obedience on the other, looks set to ruin us.

The very self-control that made us so successful is starting to dog our chances of surviving as a species. As deteriorating social conditions, enhanced surveillance and reduced freedom become the global norm, personal impulse-control has started to degenerate into mass “learned helplessness”. The collective alien cortex is rapidly turning into a frog boiled in the pan of its own making because it is simply too nihilistic and apathetic to leap away from the predicament it created for itself.

For example, as anthropogenic (more accurately, “aliencortex-ogenic”) climate instability and environmental destruction increase, popular social protest and opposition against the alien cortex and its industrial system diminish due to it’s

signature self-defenses: *mass misinformation, mass distraction, information overload, and mass digital pacification through personal phones, electronic gadgets and computers (the alien cortexes brain children).*

> Poets, priests and politicians
> Have words to thank for their positions
> Words that scream for your submission
> And no one's jamming their transmission
> 'Cos when their eloquence escapes you
> Their logic ties you up and rapes you
>
> — *The Police*, lyrics from their alien cortex in *De Do Do Do, De Da Da Da*

None of this could have happened until fire tamed us, and language bamboozled us. But how did that happen? How did losing our fear of fire, to the extent that even toddlers can be coaxed into hand-roasting marshmallows on a fierce campfire, result in us eventually being good at the marshmallow test?

I think we probably lost our fear of fire in a tussle with our love of meat. What defines us now is that in the past the dopamine hit our ancestors got from eating meat won out over the adrenaline response we (and most other mammals) get from the terror of fire. My conclusion is definitely colored by personal experience. Fifty kilometers from Pretoria, in South Africa, a UNESCO World Heritage site called the “Cradle of Humankind” is where the oldest hominid fossils (including Homo naledi) were found. They date back about 3.5 million years ago – much further back than *Homo erectus*. It gives me a warm and fuzzy feeling to know that I personally was born, cradled, and grew up in the exact same cradle of our first human origin.

From about the age of seven, I was part of a gang of rascals who spent all their free time mostly roaming around the veldt, exploring and having boyish adventures on the same savanna that has not changed much since our forbears roamed it 4 million years ago.

The Apartheid government was so afraid of the disruptive influence television might have on the population they kept it out of the country until I was 15. Growing up, we had almost no modern distractions, so unlike kids of today, we had to create our own amusements from scratch. Even movies were a rare treat, and so we grew up with books, our imaginations and a lot of free space and time.

The only electronic gadgets I ever had as a kid were a commercial clock radio and a crystal radio I built myself. But with a lot more freedom we grew up a lot faster than kids in America or Europe today. By the age of nine we were building bombs, making gunpowder and lethal homemade cannons and that was considered pretty normal mischief for kids at that time.

Ranging about the savanna we would often come across natural veldt fires. In the summer on the Highveld you can see some of the most spectacular and theatrical lightning storms in the world. They've been setting the grass plains alight every year since time immemorial. Having grown up with those fires I feel I have something to offer when it comes to elucidating how fire first tamed us, since that's where it first happened, and little has changed since then.

The first thing to note is that a veldt fire is normally very dramatic, not only because of the lightning that starts it, but also from the sheets of flame and smoke that often advance with fearsome rapidity across the plains. Even from afar, you can feel your heart race with adrenaline at the mere sight of the spectacle. That adrenaline response has evolved in us for very sound and obvious reasons of survival. When observing a veldt fire you can usually see two great and fascinating animal migrations in opposite directions. The first is the wildlife fleeing before the fire line.

There is usually a tremendous stampede of herbivores and other mammals, reptiles, and insects – you name it. It seems like a couple of episodes worth of David Attenborough's finest are frantically slithering, crawling, hopping, bounding, scampering, leaping and running for their lives from every burrow, nook, cranny, nest, hollow and from under every rock.

Then gradually a counter-migration starts to develop. Seeing the fire as a potential windfall, some predators and scavengers start to migrate *towards the fire*. Carrion birds like vultures often start to circle overheard, coming from miles around anticipating a banquet of cooked flesh from those in the first exodus who didn't quite make it.

Although savanna chimpanzees and vervet monkeys will forage in the wake of a veldt fire, they are usually latecomers and emerge reluctantly only after the fire has completely died out. They, like most predatory cats, are usually in the first migration, having evolved to be as fearful of fire as *Shere Khan*, the Bengal tiger in the *Jungle Book*.

In our modern culture, over-domesticated and super "nice" Progressives (i.e. alien cortexes steered by their mammalian brain instincts) like to insist that humans are naturally vegetarian. But that's just wishful thinking. For one thing, our oversized Canine teeth betray our carnivorous evolution. We are really omnivores and carnivorous opportunists.

Our puny primate physiology is unpromising for a carnivorous predator, so without weapons and hunting techniques we would probably struggle to get essential nutrients like choline. In spite of what your "woke" friends tell you, vegetable proteins are insufficient for humans to survive on in the long term. The uncomfortable truth for vegans is that, without access to store-bought vitamin supplements, humans had to use their wits to get meat for their survival. That meant driving herd-animals off cliffs ("game jumps"), fishing, trapping, spearing bushbabies like chimps do, foraging in the

wake of grassfires, and the ultimate fallback – human recycling, or cannibalism. Since cooked meat is easier to digest, the most attractive prize and easiest pickings for early humans was in the wake of savanna fires. Most foodstuffs, even roots, berries and vegetables, are tastier in the aftermath of a fire (so long as one can brush the ash off). The trick for a carnivorous primate is to get in early, as soon as the fire has passed and before all the dangerous, unwelcome predatory scavengers come back to ruin the feast.

I suspect that our ancestors gradually evolved to switch from being in the first group, those that ran *from* the fire, to those that ran *towards* the fire. They probably often used their wits to bravely pick their way through the burning terrain and get behind the fire line so that they were amongst the first foragers to arrive on the scene in the aftermath of a fire. Fortune favors the brave, and good cooking is there for the taking for any self-controlled hominid that can suppress the flight response when its reptilian brain is confronted with natural fire and becomes emotionally hyper charged.

Once our ancestors had learned to brave fire, the next step was to become its ally. Let me share my personal insight into the next phase by telling you what happened to my friends and me in Africa when we were about nine years old. On one of our forays alone through the African veldt, our gang happened by chance to come across a raging grass fire. It was threatening a diary farm close by, but no adults were in sight. In the same situation, kids these days would probably run for help or just pull out their phones and dial 911.

But we were brought up with a very archaic Victorian mindset, and to us the situation represented a wonderful opportunity to play at being heroes.

So the dozen or so of us kids went to a stream nearby, broke of green branches with lots of leaves, dipped them in water, and used them as beaters to tackle the fire. From Africans to Aboriginal Australians, that's the technique for grass fire suppression around the world. That's how it's been for tens, if not hundreds of thousands of years or more.

With great bravery and a lot of time and effort, our gang eventually managed to subdue the flames. As we dowsed the last burning embers, we were covered in soot and sweat, but highly elated. We danced around whooping with joy at our victory. When we had clamed down, and quenched our thirst from a genuine World War II army canteen we carried with us, we sat and felt a moment of anticlimax after all the excitement.

"What should we do now?" I asked.

My friends looked at each other for a moment and the answer came almost automatically: "Let's do it again!"

So we got dry kindling, found some embers that were still smoldering, and blew them

back into life. We made firebrands from dry grass, carried the fire to a new area, and got the fire line going again. We stood and waited for a while until the fire had really taken hold and then we went back to the stream to repeat what we had done before. Except this time the fire grew bigger and fiercer than it was previously. At some point it reached a line of trees and became really scary. We realized that it had got out of our control and we had to retreat and regroup to think what to do.

Watching the blaze advance towards the dairy farm, we realized that we were at least partially responsible for the fire now, since we were responsible for re-lighting it, and we would probably be in big trouble when someone found out. So we decided to just scarper, cleaned ourselves up, swore each other to secrecy and pretended nothing had happened!
In the end there wasn't too much damage to the farm and we got off scot-free. The way we rationalized it was that the fire would have done its thing anyway, so the fact that we happened to come on the scene and intervene for a short while was merely incidental. In our minds we merely took back what we gave, so the score was settled and we weren't guilty of anything, let alone arson.

The reason for telling this story is to give you an insight into how our ancient ancestors must have become an ally of fire a million years or so ago in Africa. Like my pals and me, they would have found it easy to go from being combustion opportunists to become fire propagators. Not for fun, but for the promising dining opportunities in the ashes of a veldt fire.

Once the principle was established that fire equated to cooked food, it must have been a short hop to keeping embers alive for possibly weeks on end, not to mention moving the embers great distances or using firebrands and torches in order to do what amounts to weaponizing fire as a crude hunting instrument – albeit a weapon of mass destruction.

The easiest and most reliable way of keeping embers alive is to simply keep a campfire running as a kind of "eternal flame". Once campfires were established, they must have become focal points around which human domestication happened. "Keep the Home-Fires Burning (Till the Boys Come Home)" as the patriotic First World War song goes.

But before you assume that campfires led to villages, villages led to towns, towns became cities and that's how civilization got started, I would caution against such linear thinking. A village and a market town are two very different things, and I don't think they are actually as related as they seem to be in the popular imagination. But let's come back to that later.

For now, let's marvel at the mental image of our ancestors sitting round the comforting warmth of a campfire of their own making, out on the African savannah, as they watch the glowing embers rising into night sky, perhaps against a backdrop of the Southern Cross and an upside-down Moon (upside-down from the North

hemisphere perspective, anyway).

This romantic mental image is remarkable, because it's amazing that a primate managed to overcome its naturally evolved and highly beneficial fear of fire to the point that it could control it, nurse it, and fuel it, and essentially master it. Soon, instead of opportunistically scavenging in the dirty ashes of a natural bushfire, our forebears must have turned things round and started to bring the bush meat from traps and hunts on the savanna back to their campfires to be cooked. That would have certainly been less destructive to the local environment.

Cooking (i.e. processing food by cutting, mashing and heating) is supposed to have had a profound effect on the evolution of our teeth and jaws, amongst other things. The theory goes that, thanks to cooking, our jaws shrank and "dental chaos" resulted. Crooked and disordered teeth are common in our branch of hominids – the only ones that cook. The thinking goes that, since in effect we outsourced most of our chewing to the kitchen staff, we are now biologically dependent on cooking. Presumably, since Darwinian pressure dictates "if you don't use it; you lose it", our pampered jaws could optimize some real estate and our dentistry could "afford" to become a right old mess. Personally, I don't subscribe to that theory.

It's hard to imagine how evolving to support the dentistry profession confers any "evolutionary advantage".

What I think is more probable is that our jaws shrank and our teeth became squashed and maloccluded due to what anthropologists call "neoteny". Neoteny means the retention of juvenile features into adulthood. It's really just academic jargon for "cuteness".

Modern humans, especially their faces, are shaped by considerable neoteny. In other words, we have evolved to look cute. The Disney Company, like many other corporations that market directly to our mammalian brains, has made a fortune out of cartoon characters with "appeal". It's no secret amongst cartoonists that to give a character "appeal" means little more than giving it a button nose, large goo-goo eyes, a swollen head and a severely shrunken jaw.

Neoteny is commonly assumed to be an evolutionary strategy designed to encourage potential competitors to mother a young rival rather than compete with it. The idea is that the animal can sneak in an early advance to sexual maturity without appearing to be a sexual rival.

Neoteny is also heavily associated with domestication. Domesticated animals like dogs, cats and humans tend to retain the features of puppies, kittens and babies into adulthood far more than their wild counterparts. The gene associated with this trait is called *BAZ1B*. It's responsible for making domestic pets and humans unusually sociable and cooperative. It's also crucial for facial development. Without *BAZ1B* you would have developed a prominent brow ridge like a Neanderthal and a jaw like

General Mandible in the cartoon *Antz* (who is the main antagonist and deliberately designed to appear unappealing). According to the rules of Hollywood, antagonists are just characters who lack the *BAZ1B* gene. The entire entertainment industry is in effect just BAZ1B-gene-ist.

So what seems most likely to me is that purely by chance, the proto-alien cortex first gave us the ability to conquer our fear of fire through a signature mixture of courage and greed that defines our species to this day. As the saying goes, "Courage isn't about being fearless. It's about overcoming your fears." The proto-alien cortex was how we initially got over our primal fears, but obviously only at the expense of eventually creating a whole new set of more abstract phobias (such as the fear of aging and dying).

Overcoming our fears implies that part of our angular gyrus was able to suppress our amygdala and the rest of our limbic system for the delayed gratification of a very abstract future reward (meat) that existed in a hypothetical and abstract realm (our imagination) behind a very real and frightening obstacle (fire).

In essence, in an internal conflict of monumental proportions, our noble and courageous David (the proto-alien cortex) defeated the Goliath of our reptilian brain's flight response for the sake of our ignoble and greedy reptilian brain's feeding impulse. Although our flight instinct was stronger than the feeding instinct, we must have evolved a neural module that was novel amongst primates and tipped the balance between the two competing impulses.

That kind of self-control eventually tamed and domesticated us, causing us to evolve BAZ1B, and to get awful dentistry (amongst other things). In concert, we lost our more fearsome aspects, like facial whiskers and spikes on the male penis (ouch!) and gained the more socializing and self-repressive ones. The latter would eventually see us lying on Freud's couch.

I think the most remarkable thing about humans controlling fire is that in order to do that you first have to tame yourself. The self-control and delayed gratification we evolved to allow us to tame fire is far more remarkable than control of fire itself. Considerable self-control in the form of patience is also required in order to cook over a campfire. And there were obviously other more immediate fringe benefits of controlling combustion, such as warmth and protection from predators, who, like Shere Khan, had not mastered their fear of fire.

But even a Bengal tiger's healthy fear of fear might be almost as ambivalent as ours. More than once, people have told me stories about how they have been on safari in the African bush and amicably shared a campfire with an otherwise dangerous wild animal.

A friend once told me that he was sitting alone on a cold night's watch over a campfire while his friends slept in tents nearby. A leopard suddenly crept out of the darkness

towards him, but with considerable courage, he just sat stock still, waiting to see what it would do. Amazingly, it came forward gingerly and eventually stretched out in front of the fire!

After a long while, it was distracted by something in the bush and left him. That story is remarkable, because by demonstrating that kind of behavior a wild cat was sniffing around the fringes of domestication. It was barely a tidbit of meat away from the first step towards becoming a pet.

It's impossible to imagine a chimpanzee in anything like that kind of encounter. It would be incapable of mustering the self-control to tend a fire through the night, let alone sitting still while a leopard approached. Most primates would have literally gone *apeshit*.

From once being delicious, slow-moving cat food on the African plains, to eventually domesticating our ancestral enemy and turning it into a pet, is an amazing turnaround for us. But what singled us out from our primate cousins for that unique destiny must surely be a debt we primarily owe to courage and self-control. Now how did we get from the genesis of the alien cortex in the angular gyrus, to the development of *Wernicke's area* and *Broca's area* – the parts of the alien cortex involved in the production of speech and the comprehension of written or spoken language?

At the point in history when the alien cortex starts writing about itself, from the San People on one side of humanity's genetic family tree to Aboriginal Australians on the extreme opposite side, we (or our alien cortex) awoke to find ourselves (or itself) in tribal bands universally dancing, singing and telling stories around campfires. In the next chapter, let's examine what probably happened in the interim to make that next step happen.

# **Chapter 3:** Breaking Dunbar's Number

So far we've covered how fire tamed us, and how we acquired a language package, but how did we get from tiny bands of nomads huddled around campfires chattering away cortex to the all encompassing global military-scientific-industrial complex of today? In isolated tribes we were socially organized around the earlier four layers of our brains.

For upwards of 20 million years, our primate brains dominated our behavior. Something happened to our species so that the fifth layer gained supremacy. We now find ourselves living in a kind of surreal, urban Matrix-world, almost a virtual reality or digital simulation, entirely created by our latest evolutionary brain layer – the alien cortex. We live out our lives mainly in our heads, and our poor addled brains are mostly interconnected through cyberspace.

Most of us are utterly removed from Nature, and increasingly divorced from our primal brain layers. Our collective alien cortex has come to tyrannize our behavior, determine our reality, and shape our future.

When our personhood (i.e. the first four brain-layers) ruled supreme way back in prehistory, social group cohesion used to be governed by Dunbar's number. The British anthropologist, Robin Dunbar, found a correlation between a primate's brain size and the average size of their social group. According to Dunbar's theory, the number of stable inter-personal relationships a primate can sustain is limited by the size of their neocortex (excluding the alien cortex, which he doesn't know about).

For the human primate, that translates to somewhere between 100 and 250 individuals, with 150 taken as common. It's essentially the maximum number of people you know well enough to casually burst in on to announce, "Hey, you'll never guess what I just heard…"

Surveys show human social groups do indeed tend to consistently limit themselves to around 150 members. The basic military unit of Ancient Rome was around that number, and it's still true of modern armies. It's well known that small businesses, and even religious cults tend to reach a threshold of around 150 employees, or members, and then suffer severe growing pains if they try to grow any bigger. Managing a company with a Dunbar's number of people is an entirely different leadership style to managing a corporation of thousands.

Knowing that, venture capitalists often plan ahead and anticipate replacing a founding CEO with a "professional" executive when a startup reaches around 100-250 employees (usually much to the shock and chagrin of the original founder). They

know from experience that a charismatic entrepreneur or Alpha person, who performs miracles bootstrapping an enterprise from the ground up, is unlikely to be able to cope with the transition of management style required when the company exceeds its Dunbar number.

What they don't know is that's because the CEO of a small company knows everyone in the business personally and manages them using their pro-social primate and mammalian brains, which have evolved for exactly those kinds of personal interactions. On the other hand, "professional" CEOs and heads of large organizations tend to lead using their alien cortex.

In essence, they are administrative "bean counters" (recall "calculi" and digital counting in the previous chapter) rather than "silverbacks". They manage employees much like a pastoralist manages an anonymous and undifferentiated herd. A dictator like Stalin runs a country using his alien cortex and a ledger, rather than his primate or mammalian brain and chutzpah. Hence he can afford to dispassionately observe during a famine, "If only one man dies of hunger, that is a tragedy. If millions die, that's only statistics".

That kind of coldness comes from his alien cortex. If he tried to manage a national famine with his heart (i.e. mammalian brain), it would probably emotionally debilitate him and leave him a shattered, nervous wreck. Being "professional" means being cold, heartless and rational. In other words, behaving like an alien cortex on steroids - literally.

That's not to say that professional executives and Stalin don't have a social network or tribe of a Dunbar's worth of people that fully engages the limits of their primate brains. They almost certainly do have that on the side, but that's not the social group they lead during their day job. Beyond their Dunbar limit, they manage organizations impersonally, as if the collective they were running were a vehicle or machine, so its size is effectively unlimited (as long as it is organized as a hierarchy). It's entirely thanks to the alien cortex that communities and social groups can exceed the human Dunbar limit. But leaders of those social groups can't run them by being humane or empathetic except in the most perfunctory of ways. However, they normally have to fake their humanity to their constituents.

The reason for that is most people are not intellectual and don't generally dwell in the alien cortex part of their brains, they merely visit occasionally. Conversely, the group leader of more than about 150 people has to be calculating almost all the time – even though most people, roughly 80% or more, usually reach out to engage them with their pre-alien brain layers. This asymmetry is crucial in understanding the modern world and how it's run.

Leaders of large groups have to maintain a façade for the common folk and pay lip service to our prehistoric brain. That's why politicians on the campaign trail hold babies up and kiss them (a cynical appeal to the mammalian brain), why they shake

hands, pump the flesh and slap backs and pretend to recognize strangers (a cynical appeal to the primate brain), and why they strike power-poses and rant (a visceral attempt to get reptilian brain juices flowing). But all this is a calculated and empty show by the alien cortex for the benefit of the other four brain layers of the people they are trying to influence. Demagoguery does really work when applied to the human intellectual faculty. Demagogues don't usually ply their trade by appealing to reason. They generally appeal to emotion, and it's purely an act. Since our brains have not evolved to handle groups of over 150 people, we tend to fall back on treating social groups larger than our Dunbar number as if they are a person in their own right. It's a cognitive flaw we suffer from – call it a "Collective personification bias", if you like.

When dealing with the "hive mind" of an actual hive, of say, bees or ants, or an animal herd or flock of birds, our brains have evolved to treat such a collective as a mindless "thing". Not so with a *human* collective. An infamous case in point is how the US Supreme Court has granted "corporate personhood" under the law to commercial corporations. The iniquity of that is that corporations are readily acknowledged by the same courts to be merely "legal fictions".

Qualifying for "personhood" would require them to have brain layers one to four, which they don't. At most, they just have job positions to fake those layers for the sake of public relations.
The problem is, thanks to our cognitive shortcomings, most people can't seem to help themselves when granting large bodies of people the status of natural, living persons ("corporation" derives from *corpus* or "dead body"). To our primal imaginations, whole nations, ethnic groups and organizations seem to have personalities. Corporate employees may have bumper stickers saying, "I'll believe corporations are people when Texas executes one", but when it comes down to it they expect human reactions from their employer and are outraged when the legal fictions they devote their lives to don't reciprocate appropriately according to their primitive, non-alien brain layers.

We are shocked when corporations show heartless lack of concern for the environment (i.e. they lack a mammalian brain's compassion), or when they act unfairly to employees (i.e. they lack a primate brain's instinct for fairness). Since our outraged Paleolithic brains can't look all 840,400 employees of Amazon in the eye, we (or our alien cortex, which is good at this sort of thing) substitute Jeff Bozo as the "face of Amazon" (or the "head of the corporation"). Jeff Bozo then has to go through the elaborate masquerade of pretending to be Amazon's fish, reptilian, primate or mammalian brain for us.

Obviously he's a "professional" CEO, so on the inside his alien cortex is just calculating, "how would a primate brain behave?" or, "what would a mammalian brain feel?" and then numbly acting that way as best he can on behalf of a fictitious entity that only exists in our alien cortex's imagination as a vehicle to make money. It's all a huge psychological fraud that our culture has internalized and normalized. Without this

strange kabuki dance, humans couldn't operate in large distributed collectives, organizations, nations or states, and we would all still be nomadic hunter-gatherers with tribes of around 150 members – the figure that Dunbar found to correlate with the size of the average Neolithic farming village.

In Aristotle's highly influential *Nicomachean Ethics*, he implies that a polis over 100,000 citizens is unethical. He automatically assumed that a polis requires an idle warrior class and large plots of land staffed by slaves and laborers.

Aristotle had no problem with the ethics of slavery, because he thought some people were slaves by nature. What he believed was unethical was that a large population contravened the righteousness of being *self-contained and self-sufficient*! In his *Politics* he thought that if a population exceeded 5,000 citizens, then it needed the "territory of Babylon" (i.e. an exorbitant amount) in order to sustain the inhabitants in ethical "idleness" (served by slaves, of course).More than that needed too many slaves and too much land, which therefore required imperial conquest, which violated his ethical standards of self-sufficiency and self-containment.

Boiled down to its essence and shorn of his "ethics", he seems to be expressing a kind of proto-Malthusian observation that the carrying capacity of any city is finite. Yet just like any Silicon Valley startup outgrowing its Dunbar number, somehow humans managed to transcend the neural dynamics of a village or tribe and embark on the journey towards ever bigger towns, cities, and ultimately the global metropolis – a headlong plunge into autocratic control, central-management and total hegemony of the alien cortex.

As far as we know, early hunter-gatherers did not keep slaves. In order for civilization to arise, Dunbar's limit had to be broken, and some people had to start manipulating others using a different part of their brain – the alien cortex. They needed to develop the previously unknown and alien concept of ownership of land, crops, livestock and people.

How, and why, did it happen?

The word "civilization" comes from the Roman word *civitas* (a town or city). Civilian or *civis* is a "townsman" from the PIE root "*kei-" meaning "to lie down" or "get into bed with". The number of people bedding down together in urban areas passed 50% around 2007 and the percentage is increasing linearly. The UN predicts that 68% of the world population will live in urban areas by 2050, which at least implies they are optimistic enough to think inhabited cities will still be around by mid century, which may come as a surprise to readers of this book!

How do we account for this ongoing wave of urbanization (i.e. increasing civilization) and the human manipulation of the many by the few that inevitably goes with it?

According to most scholars, and the orthodox ideology propagated by the current pro-state propaganda peddled in schools, Gordon Childe's "agricultural surplus" theory is how civilization started.

Supposedly, the few manipulators-of-the-many arose naturally to arbitrate humanity's productivity "surplus". Central to this dogma is that, when humans were dominated by Nature they lived in deprivation, but when they overthrew the tyranny of the natural world through a Promethean feat of intellect, they finally achieved abundance. Admittedly, sharing this abundance is still a to-do item, but Childe, ever the optimist, thought we would sort that out in due course.

As far as I can tell, this whole narrative is a convenient myth designed by conservative apologists for the current global system so that they can put a positive spin on the origins of our universal mass oppression, domestication and forced labor – all perpetrated by our alien cortex. It's the way Thomas Hobbes' *Leviathan* justifies Hobbes' "social contract" to the deprived urban masses.

Although, curiously, none of us ever explicitly signed the contract and the Leviathan tolerates no get-out clauses. Hobbes doesn't even give us Hobson's choice; because the Leviathan has locked up all the food, the land, and the sex, so realistically we don't have the option to even turn the contract down. We are just coerced into it from birth.

Yet this story of "bounty" turned productively into a beneficial state Leviathan is utterly unsupported by any evidence. It's merely supposition, wishful thinking and convenient political propaganda. Gordon Childe's fabled "Agricultural Revolution", followed by an "Urban Revolution", is a *whale of a whitewash*.

> Rather than heralding a new era of easy living, the Agricultural Revolution left farmers with lives generally more difficult and less satisfying than those of foragers. Hunter-gatherers spent their time in more stimulating and varied ways, and were less in danger of starvation and disease. The Agricultural Revolution certainly enlarged the sum total of food at the disposal of humankind, but the extra food did not translate into better diet or more leisure. Rather it translated into a population explosion and pampered elites. The average farmer worked harder than the average forager, and got a worse diet in return. The Agricultural Revolution was history's biggest fraud.
>
> - Yuval Noah Harari, *Sapiens*

Up until very recently, the highly politicized dogma goes something like this. The convenient fiction you were probably spun in school is that the "Cradle of Civilization" was in what's adoringly referred to as the "Fertile Crescent" in Mesopotamia. More recently this has been further embellished to include a "Golden Triangle" as the "Cradle of Agriculture" in the foothills of the Taurus Mountains. There is evidence that the first wild forms of Neolithic founder crops of einkorn, emmer wheat, and barley

were first domesticated there about 10,000 years ago.

An archaeologist called James Henry Breasted popularized the term “Fertile Crescent” in 1914, just when the war that most seriously cast doubt on the benefits of civilization broke out (followed shortly by Part II, which removed all doubt). The suggestion is that, unique in the entire world, the area in Ancient Sumer was so bursting with fecundity that it just begged to be farmed.

Naturally, civilization, which was waiting impatiently in the wings for the glacial periods to end so it could finally get going, started there. So it comes as quite a surprise to visitors to the Fertile Crescent when they are confronted with a semi-arid desert landscape. It is mostly now as it was then (bar a good deal of deforestation due to the ravages of excessive civilization).

Childe based his theories on contemporary ethnographers who studied what he called modern “savages.” Although archeologists like Childe and Breasted tend to present the birth of agriculture as the linear progression of a predestined *fait accompli*, or manifest destiny, it would never have happened without irrigation canals (the only other option is non-arable marshland).

Which begs the question, why did Childe’s “primitive savages” bother domesticating crops and digging canals (or draining marshes) without the foreknowledge of the supposed benefits that would accrue from an agricultural “surplus” thousands of years later? Why not just harvest grains from the wild? Pre-domestic emmer wheat collected by hunter gatherers has been carbon dated to 19,000 years ago

Why bother growing it at scale if it was available in the wild even during a glacial period?

Bear in mind that irrigating fields with canals inevitably causes salt leaching, which progressively degrades the soils until they are no longer fertile. Agriculture was always a Sisyphean task. In addition, irrigation schemes demand organized labor, which could presumably only be mustered by a state, and a state, according to the theory, could only come about once there was a surplus. So his whole theory is rife with a causality dilemma, which historians usually glibly gloss over.

Ever since school I was always puzzled at the idea of early peasant farmers voluntarily saying to their more contemplative and introspective, but no less socially equal comrades, “Kushim, don’t bother toiling away in the hot sun.

We have a surplus this season. Why don’t you just go off and do a bit of stargazing while we finish up here in the fields. You’re such a smart fellow. Who knows, perhaps you’ll invent mathematics or something and eventually we’ll have long-range radio

communications! I'll bet if you even just go and start scratching lines in the sand one thing will lead to another, we'll probably invent rocket science and eventually humankind will walk on the Moon some day. Now wouldn't that make my broken back all worthwhile!"

On the face of it, his theory seems pretty unlikely.

Childe wrote in *Man Makes Himself*, "The grain grower enjoys substantial spells of leisure, during which he can devote himself to other occupations." Actually, modern studies of the indigenous !Kung people indicate that they only need to work about fifteen to twenty hours a week in order to survive. They devote the rest of their time to leisure. By comparison, ancient farmers probably worked 14 hours a day, without days off, during peak work periods like sowing and harvesting (as you probably do too).

Also consider that the !Kung have been pushed to the extreme arid margins by settlers who took their prime land away from them, so when Marshall Sahlins called them the "original affluent society" he was probably speaking for all ancient foragers before they were displaced by farmers. Farmers were also subject to corvée labor and conscription, which further erased their leisure time. So Childe's suppositions about their leisure are glaringly flawed.

His thinking, still in the mainstream today, was that sedentary hamlets turned into villages as they became more affluent, and villages eventually surfed to greatness as cities, and eventually states and empires, on the waves of agricultural surplus in an inevitable and continuous process of social improvement and technological advance. But I find it baffling.

Growing up in Africa, one thing I know from personal experience is that subsistence farmers (Childe's "savages") seldom if ever have a consistent surplus. Farming is formidably hard work. If the post-savages miscalculated and had a surplus one particular year, then the next planting season they would almost certainly correct their mistake and simply grow *less* next time, not *more*.

In fact, farming has always been a very risky, marginal and backbreaking activity with very meager returns right up to the present day. Few industrial farmers in contemporary OECD countries could survive without the help of government subsidies and large, state-sponsored infrastructure projects (like roads, ports and irrigation schemes). Life must have been many times more precarious for early farmers without the supposed "technological dividend" of today.

Commercial farmers absolutely *require* the state. Only self-sufficient subsistence farmers and swidden (slash-and-burn) agriculturalists can exist without the assistance of a state. So it's inconceivable that farming could have led to state formation any more than rocks spontaneously roll uphill. There's just too much inertia.

According to Childe's imagination, "Each primary producer paid over the tiny surplus

he could wring from the soil with his still very limited technical equipment as tithe or tax to an imaginary deity or a divine king who thus concentrated the surplus." Really? Why?

I can find no example from anthropology where indigenous hunter gatherers behave that way. Tribute and tax only start *after* power is centralized, not before, even in a post-industrial labor trade union. I don't know of a single example in history or anthropology where voluntary gift giving, subscriptions, donations, taxes or tithing led to a growing centralized authority. It's always the other way round, and *involuntary*. Even cults like *The Church of Jesus Christ of Latter-day Saints* or the *Owenite* utopian communities only started tithing after power was first centralized around a charismatic leader. In ancient Greece, the Oracle at Delhi accumulated vast wealth through donations and tribute, but it never wielded direct or imperial power over anyone. Had it done so, it would have instantly lost its neutrality, and hence prestige, status and wealth.

The primate norm is usually a form of *potlatch*, where any surplus is distributed amongst the Commons, rather than centralized with an individual or ruling class. The Khoisan, for example, are militantly egalitarian and go to excessive lengths to castigate, humiliate and actively bring down any member of the tribe who rises in status, even if it's just by accidentally bringing in a larger-than-usual kill from the hunt, let alone accumulating or centralizing wealth.

The burden of proof is on Childe's supporters to explain why, if his theory holds water, people in Sumer suddenly and inexplicably went against the norms of human nature and the primate brain.

How was it that a meager offering of a tithe of next to nothing supposedly accumulated through re-investment until professional traders could leisurely speculate it away, making large fortunes on the Chicago Mercantile Exchange for example, while farmers still struggled in their fields? Why didn't farmers simply rebel and withdraw their tithe as soon as they saw it was leading to centralization, social inequality, class stratification, slavery, militarization and the destruction of the local environment? As soon as they realized that it was reducing their options to defect back to the relative ease, safety and security of a nomadic lifestyle, it should have genuinely alarmed them.

Were they just incapable of controlling some overwhelming capitalist instinct that mysteriously seized hold of them like some dreadful brain disease? What vision did they have in mind? Was it entirely voluntary? Did they sleepwalk into civilization, or were they trapped?

If you are a Progressive, then it may seem obvious that they would re-invest any "surplus" in more civilization, but I doubt hunter-gatherers were Progressives or venture capitalists. Are we really supposed to believe that out of nowhere they suddenly developed a profit motive when most "savages" frown on such things?

The truth is there was never much, if any, profit in farming. So it's a complete mystery why anyone bothered getting embroiled in it. The orthodox narrative only works if you don't think about it too hard and don't ask too many awkward questions. So where did this unsubstantiated fiction of an all-important "surplus", or agri jackpot, come from?

It turns out that Gordon Childe was a Marxist. His agricultural "surplus" theory actually comes from Karl Marx, rather than any archeological evidence. When Marx wrote about "surplus value" in *Theories of Surplus Value* he was actually referring to an absolute surplus that he surmised the seller accrued when the sale of industrial products in free markets reaped more than the cost of manufacture. "Surplus value" is a translation of the German word "*Mehrwert*", meaning "more worth".
Where did this semi-magical "more worth" come from?

Marx reasoned that it was from human labor.

The surplus arose because capitalists pay workers by the hour, but keep the final work product for themselves. The market value of the work product was necessarily more valuable than the worker's time (otherwise the enterprise wouldn't generate any profit). Therefore, the manufacturing "surplus" was essentially theft.
The reason why workers have to live with this rotten deal is that the capitalists own all the fields and factories. By monopolizing the *means of production*, the capitalists reap all the rewards. And they can use that stolen wealth to re-invest in ever more land and factories.

And that's where economic growth comes from. Money makes money. It's what's known as a "Mathew effect" (from Mathew's Gospel, where the author points out the perennial truth that the rich just get richer, while the poor get ever more impoverished).

So much for a *manufacturing* surplus, but where did Childe's "*agricultural* surplus" come from? Where was Marx's "*Mehrwert*" when, on the face of things, farming looks like more trouble than it was worth and farmers look more like slaves than "wealth creators"?

The use of the term "agricultural surplus" is usually defined as the excess of product over the subsistence requirements of a rural population. But notice how fishy this story gets. Both foragers and farmers already had an almost unlimited surplus out in Nature. If hunter-gatherers worked less than agriculturalists, it stands to reason that they surely had a bigger readymade "surplus" in the wild than farmers could gain at the expense of more labor (which was just ripe for being stolen by capitalists). Surely there was a bigger surplus to be had from Nature's larder by just simply hunting and gathering more aggressively? Surely that would be a better and more obvious investment for one's labor?

The standard fallback to this question for pre-historians is always “climate change”. Diehard Childe supporters speculate (as Childe did) that at some point foragers were forced to congregate around water sources like rivers and lakes because the climate must have become drier and the hunting grounds could no longer support the hunting and gathering lifestyle.

While this may sound appealing in theory, the fact remains that if the bounty from foraging is under climatic stress, then doubly so for farming! Well-fed Khoisan must have frequently looked with pity on settlers trying to plough a pest-infected dust bowl during dry years. Hunter-gatherers enjoyed the resilience of having a variety of about 200 edible plant species on their menus.

By comparison, farmers almost literally put all their eggs in one basket by risking it all on under 20. Nomads spread their subsistence across several food webs, which made them less vulnerable to the failure of a single food source or climate change. They also had mobility on their side.

If drought did in fact force them into crowding, when the rains returned, why didn’t the poor farmers set their livestock free and hightail it back to their hunting and gathering again so that they could regain their health, leisure, freedom and fun? Why did this tragedy only happen in the Holocene period, and where has the narrative of the bounteous “Fertile Crescent” suddenly disappeared?

So that we don’t lapse into a Childe-like fantasy of social progress, let’s remind ourselves again about the benefits of living in the "original affluent society" as a hunter-gatherer and what we turned our backs on.

> Later, Isaac prayed to the LORD on behalf of his wife, because she was barren. And the LORD heard his prayer, and his wife Rebekah conceived. But the children inside her struggled with each other, and she said, “Why is this happening to me?” So Rebekah went to inquire of the LORD, and He declared to her:
>
> “Two nations are in your womb, and two peoples from within you will be separated; one people will be stronger than the other, and the older will serve the younger.”
>
> When her time came to give birth, there were indeed twins in her womb. The first one came out red, covered with hair like a fur coat; so they named him Esau. After this, his brother came out grasping Esau’s heel; so he was named Jacob. And Isaac was sixty years old when the twins were born.
> When the boys grew up, Esau became a skillful hunter, a man of the field, while Jacob was a quiet man who stayed at home. Because Isaac had a taste for wild game, he loved Esau; but Rebekah loved Jacob.
>
> - Alien Cortex, *The Bible*, Genesis 25:21-27

When the hunter-gatherer Esau gave up his birthright to conniving, domesticated Jacob for a meager bowl of porridge, they exchanged positions of authority over one another forever. Esau was giving up everything. The value of that one bowl of gruel was almost incalculable. Esau may have even sold us all into extinction. Domestication comes at a very high price.

The archeological record shows that domesticated humans were smaller and less healthy than hunter-gatherers in similar locations during the same time period. Their bones and teeth tell a tale of nutritional distress, iron deficiency and anemia due to the increasing reliance on grains as a staple. For the first time, they start to get cancer and most of the infectious diseases we know today suddenly make an appearance. Cholera, smallpox, mumps, measles, influenza, chicken pox, and perhaps malaria, arose as a result of the shift to urbanization and agriculture.

Nomadic people had diseases such as typhoid, amoebic dysentery, herpes, trachoma, leprosy, schistosomiasis, filariasis etc. but those were not diseases associated with crowding. Greater population densities added a deadly list of new ways to die. Domesticated animals were responsible for the zoonotic diseases that were able to cross the species barrier with the new living arrangements. Crop diseases and parasites also plagued Neolithic planters. The word “parasite” comes from the Greek *parasitos*, which means "beside the grain or bread".

By turning their backs on the wild, pastoralists and farmers were opting for a life of drudgery and grind. Even the word “grind” in the sense of “hard, dull work” refers to grinding grain to make bread or beer. One doubts the beer made up for it. Many researchers speculate that civilization was only possible thanks to beer.

Fermentation was essential to making the inevitably polluted and smelly water around urban areas drinkable. Although a necessity, experimental archeologists have discovered that early beers were not quite the tasty and enjoyable beverages we have today. So don’t assume they did it entirely for the beer! When farmers gave up hunting, they also reduced their access to hides and skins.

The first domesticated livestock were probably goats, and probably weren’t great at providing clothing. So while foragers enjoyed the luxury of leather and fur, farmers were soon reduced to wearing woven fabric. It’s hard to see where Gordon Childe’s “substantial spells of leisure” come from when one considers the excessive time and labor involved in growing, spinning and weaving cotton.

The archeological record is saturated with ancient spindle whorls - small disks of stone or wood with a hole in the middle, used as spindles to wind cotton or fiber into thread. They are a grim reminder of the tedium of domestic life. It was mostly women and children’s lives that the alien cortex framed with the weaving loom. And things only got worse for them with the Industrial Revolution and the invention of the cotton gin and the Jacquard loom (the precursor of the computer).

Thomas Hobbes claimed in one of the best-known passages of English philosophy that the natural state of humankind was "… continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short". According to him, only the state provided relief from his fantasy of a "war of all against all". These days we know it's the other way round.

The evidence contradicts Hobbes, and yet, amazingly, the consensus view still supports him. Students are routinely systematically inoculated against the Romantic notion of a "Noble savage". Although Jean-Jacques Rousseau and Michel de Montaigne never used the phrase, their ideas of better times in the simpler past are mostly lampooned by academics as just examples of silly 18th Century sentimentalism.

Childe openly posited his ideas as an antidote to modern pessimists who doubt the relentless propaganda of "Progress" and the benefits of the modern world. Progressivism was something he ardently believed in, and he was out to promote it. Hunter-gatherer cultures come in a wide variety, so it's near impossible to generalize about them. But that's really the whole point. Industrial societies show hardly any variety. "Progress", I would say, is bad merely from the point of view of loss of cultural diversity and loss of resilience against systemic and natural shocks.

Overall, the evidence now shows that Childe's "savages" were not only healthier and had more fun and leisure, they lived longer and had lower child mortality and had less lethal conflicts. A starch-based diet and sedentary lifestyle upset women's hormonal balance, which led to a higher fertility rate. So while being forced to grieve the death of more children, settled communities ironically also had to contend with overpopulation. Inevitably, the perceived value of human life declined (and became more of a statistic).

Overpopulation has plagued us ever since, along with the crowding diseases that came with it. It may eventually spell overshoot and the end of our species, but we'll come back to that.

The icing on the cake is that Jacobs are dumber than Esaus. Most people automatically assume (like Childe) that because humans are getting more technical and society more sophisticated, therefore we must be getting smarter. Actually, the opposite is happening.

As I mentioned earlier, domestication is causing us to lose gray matter. With so little gray matter left, people easily forget, so it's worth repeating that over the last 20,000 years, *the average male has lost about a cat brain-sized amount of neural matter thanks to devolution as a direct result of domestication.*

It's hard to see a "surplus" in this dismal picture other than a growing surplus population.

he truth is that the “surplus theory” is also a colossal fraud. It’s Progressive propaganda designed to cover up the fact that all civilizations run with a glaring *deficit* rather than a *surplus*. They are running on borrowed everything, including borrowed time.

If they actually generated a surplus it would be creation *ex nihilo*. No such thing is possible. So people like Childe were engaging in magical thinking. As Derrick Jensen points out, civilizations require the import of ever more resources from a wider and wider geographic circle. Like malignant cancers, they have to continually consume and grow or else quickly wither and die. Therefore, they are inherently expansionist, imperialistic and combative.

Like all lost causes, they need to be continually propped up with morale boosting and cheerleading, because they need people to have hope in the future and a blindly optimistic outlook, otherwise they won’t invest in the project and feed its insatiable needs. Without an ever-expanding base of enthusiastic participants, like any Pyramid-selling scheme, they will collapse and die.

Once civilization gets going, if any society fails to resort to highly militarized and hierarchical social structures (pyramids) to protect themselves, then they risk being consumed by neighboring civilizations that are more martial, expansionist and aggressive than they are. Therefore neighboring civilizations tend to get trapped in arms races that trend towards mutual destruction.

For example, the Ancient Greek islands in the Aegean were deforested and mostly ecologically devastated in arms races to build naval triremes. Any islands that refused to play the game were soon conquered and their forests were taken anyway, so there was no way of staying out of the madness. Competition or war is never profitable if you account for the losses on both sides. War is a costly business. There’s relative gain, but no net gain.

So civilization is generally a beggar-thy neighbor race to the bottom conducted one commercial or martial transaction at a time. Although international trade and free-markets are lauded by our culture as a wonderful thing, in reality it’s Garrett Hardin’s “Tragedy of the commons” in action.

This weakness of civilizations is generally swept under the rug with lots of hoopla, glitz and crooked accounting. National GDP is always positive simply because of glossy partial accounting. If any nation did an honest whole-cost accounting for all aspects of military, industrial and economic activity, the result would be a huge *negative* number that only compounded over time. Just like any Ponzi scheme, this is covered up (at least for a while) by *apparent* growth in almost every aspect of the system.
*Don’t look at the deforestation and ecological destruction, just look at the fantastic triremes and all the loot, slaves and territory they gained us!*

Overall it's all deficit spending. It's empty growth – a bubble. All civilizations are run by theft (or passing on the bill to future generations) and debt. The theft is from the soil, from the wild fauna and flora, from under-compensating the people that labor to maintain and defend the system, by debasing currencies, by underpaying for imported and extracted materials, and by not paying to clean up the astonishing mess afterwards. Civilization is like a charge-at-the-door frat-party. It doesn't generate any wealth except for the few that run the show.

If General Motors priced your gas guzzler according to what it costs to get the carbon it emits out of the atmosphere and back into the ground, restore the manufactured materials back to the earth, repair the damage to living organisms from all the toxins emitted over its lifecycle, and paid the workers that manufactured and serviced it the full value of their labor, then only billionaires could afford to drive. And if the world worked that way, where would they get their billions from anyway?

Factor in what economists blithely call "externalities" and any civilization is a complete economic bust. It's obvious, but we live with a giant, collective cultural conspiracy to pretend otherwise.

The bill for civilization's costs is mostly passed down to future generations through elaborate systems of debt and currency depreciation. Ecological degradation, climate degradation and pollution are also subtle vehicles for passing on deficits to our descendants in order to create the illusion that civilization pays its way. It goes without saying that no civilization is sustainable over the longer term. Most last on average about 336 years (according to collapse expert Luke Kemp). Almost all collapses are permanent.

At some point civilizations expand to their consumption-emission limits, suffer stress, and then implode in a Malthusian catastrophe. They are all products of creative accounting, not creative imagination.

However, that's not according to most mainstream academics. According to the agreed consensus, and the myth we teach our kids in school, we'll always outwit Malthus through advances in technology. *Grin and bear it, because we actually have no choice anymore!*

Civilization supposedly always gives us advances in technology, and one day, according to our Progressive myths, technology will give us a payday that lets us pay down all the extravagant debts our civilization has accrued to date. *Keep working for the pie in the sky!*

Yet in spite of appearances, technology is not a panacea, because when it's applied, it just makes the world ever more complex, more close-coupled, and more fragile. Contrary to popular opinion, reliance on technology makes the world more prone to collapse, not more resilient. With ever more moving parts, there are ever more things to go wrong, and ever more potential modes of failure.

Most people don't realize that technology, realistically speaking, only really allows us to jump from log to log to avoid being drowned in a particular limit. It's not a magic wand that allows us to *escape all limits*. It makes systemic limits tradable, not avoidable.

For example, just because you read a sensational article in a pop science e-zine about some "breakthrough" in artificial meat-science, that doesn't mean unlimited protein is now available from an alternate dimension in space. It just means there is some corporation out there that is proposing we switch to some other source of protein (usually plant-based, which has its own limits, like phosphates or freshwater). Even artificial meat has to eat something. Not even *Soylent Green* pops spontaneously out of thin air.

Likewise, when you read in the news that there is some fantastic discovery that makes solar panels twice as efficient, that doesn't mean the world is on the cusp of unlimited free energy (as science journals usually breathlessly imply). It just means that the new limit for photovoltaic cells is something else – probably some rare earth mineral that's in short supply.

The bitter truth for optimistic futurologists is that while the number of patents is going up, the number of quantum leaps in technological advances is falling off a cliff. The low-hanging fruit is long gone. Inventions are getting more trivial and having less impact with more hype, which is a sure sign that limits are being reached on all fronts, and most technological avenues have been explored. Econometric studies show that dollars invested in R&D (return on research capital or RORC) show less and less of a return. There are growing signs that we are not only at Peak Energy; we are also at Peak Tech. There will be no "technological singularity" or "Rapture of the Nerds". That's the fatal truth that our civilization refuses to accept.

Our industrial culture is cheer led by cargo-cult economists with primitive tech-superstitions and overinflated, irrational faith in applied science, while most of them have never even heard of the First Law of Thermodynamics. However, even if you believe in techno magic, news headlines clearly indicate that civilization and the biosphere are collapsing faster than technological advances are coming along to save them. Gamblers will be gamblers, and civilization was always first and foremost a casino.

So if the "agricultural surplus" is a myth, and civilizations are terminal, deficit growth engines that can't pay for themselves, how did the bushfire of ever expanding civilization get ignited? How did Dunbar's limit get breached? Let's rewind our story back to where we left off after fire tamed us, and we acquired language. According to the Bible, Adam named every species, but what did he name his own? Shamelessly referring to itself, our alien cortex Brain slug immodestly gave our species the name *Homo sapiens sapiens* (from Latin: *homō*, "human being" and *sapiēns*, "wise, sensible, judicious, knowing").

The word “sapiens” is specified twice, indicating that we are not only “one who knows”, but “one who knows they know”.

*Big stuff!*

Many people, observing the folly of mankind, have argued that “wise” or “knowing” is hardly a good designation for such self-destructive primates as we are (post alien cortex). Suggestions for more apt alternatives include *Homo ludens* (one who is playful or likes sport), *Homo faber* (because we are tool makers), *Homo aestheticus* (because our defining feature is supposedly that we make art), and *Homo narratus* (because, as the story goes, we are a storytelling species).

Social psychologist Sheldon Solomon and a group known as the “Terror management theorists” propose calling our species *Homo mortalis*, because they say what defines us is our fear of death. That’s based on a Scottish poet called Alexander Smith who opined, “It is the knowledge that we have to die that makes us human.”

I’d like to throw my hat in the ring with this suggestion: *Homo mercator.* “Trading Man” is what defines us. It’s really all about *shopping*! If we ask ourselves what lit the spark of Civilization with a capital city and a capital “C”, I think the answer is *trade*. Trade is the secret to how Dunbar’s limit got broken. Cities, and eventually states, are fundamentally just oversized shopping malls, owned by the equivalent of Mafia dons and run with priests, shopkeeper-artisans and security guards.

All things considered, perhaps *casinos* are a better analogy. I am no fan of economists, but I think that commerce came first, and everything else fell into place to serve the market – unfortunately, just as one would expect in a neo liberal economist’s perfect wet dream.

Childe thought that “rudimentary trade” only started with an agricultural surplus. Without his surplus he just could not imagine there was anything to trade. But there is evidence that trade goes back much, much further than the dates usually given for the Agricultural Revoution.

In 2018 an international team of anthropologists discovered that 320,000 years ago early humans in East Africa had begun trading with distant groups. What is interesting is that the Homo mercator (Homo sapiens or “anatomically modern humans”) only appeared in Africa around 300,000 years ago. So if trade doesn’t predate us, it’s probably at least as old as our species.

Even domesticated wheat was traded in Britain at least 8,000 years ago. At that time the indigenous population were hunter-gatherers and cereal farming only started 2,000 years later. So the wheat recently discovered in Britain came from over 1,000 km away near the Mediterranean. That’s a long way to haul a sack of

grain on foot!

Textbooks still claim that the obsidian trade (volcanic glass used for scalpel-sharp cutting) had its origins only about 12,000 years ago, when humans first settled into agricultural communities. A common refrain is, “With a settled lifestyle came the need to reach out to other communities to procure goods and raw materials not available locally”.

Yet Nick Blegen, of Harvard University, reports that large amounts of obsidian tools were found in Kenya dating to approximately 200,000 years ago. Since the majority of obsidian pieces were sourced from more than 160 km away, he believes this indicates evidence of wide resource networks and intergroup trading of raw materials very early in the evolution of Homo mercator.

To recap, what I think happened was that the alien cortex arose in early hominids as a new functional module in the brain that allowed them to conquer their fear of fire. The reward was cooked carrion in the wake of bushfires. Most of our primal fear of fire comes from our amygdala or reptilian brains. As a side effect of being able to inhibit or suppress the natural response to fire, the alien cortex also gained the ability to suppress all sorts of other naturally conditioned cues.

One of the most crucial of those was the ability to *suppress our natural fear of strangers*. Most primates are extremely xenophobic. They could never hope to trade with each other because they are hyper-reactive to any member of their out-group, or individuals outside their Dunbar limit. It was the human ability to tolerate strangers that gave us the ability to trade, build trading networks, and eventually to build a globalized and highly interconnected world. Once trade became normalized, centralized for-purpose trading centers (never villages) became the proto-cities that eventually led to civilization. Organized religion, manufacturing, statecraft and agriculture arose to serve the marketplace. They were just one of the many things traded in early markets (along with goods and services, such as prostitution and medicine).

It was the competitive dynamics of the marketplace that primarily drove the evolution of the alien cortex. Its ability to suppress and dominate other layers of the brain grew over time until eventually Daniel Goleman could claim that EQ was everything. The marketplace was the alien cortex’s perfect habitat. What the alien cortex was doing was what biologists call “niche construction”.

The alien cortex entered a rapidly reinforcing evolutionary feedback cycle centered on the marketplace, almost analogous to a “fast-breeder” nuclear reactor. The fifth brain layer evolved to serve the psychosocial dynamics of the market and promote it, while the alien cortex was in turn expanding its perfect environmental niche – its most self-encouraging habitat, the marketplace. They both incubated and reinforced each other. This tango happened at the expense of the other four brain layers, which atrophied under the increasing dominance of the new alien part during the last 20,000

years. “What you don’t use, you lose,” as the old Lamarckian expression goes. This process was by no means linear.

There was a lot of back-and-forth that still goes on today. Even the Romantic school’s arguments against the Rationalists (such as Hobbes) are a distant echo of the ongoing evolutionary battle between the older, more human brain layers and the alien cortex.

Let’s try to imagine how the first trading places came about.

The first thing to note is that trade is a risky business.

The crucial difference with trading outside your regular affiliates, or Dunbar-limited social group, is that most trades would *not* be done based on reputation. They would probably be one-time only, anonymous trades with very little penalty for crooked dealing. That means that one party’s gain is the other’s loss.

Although economists like to waffle on about “win-win” situations, the truth is that’s voodoo, not physics. Just as with war, there is no net benefit for both parties, there is only relative benefit of one over the other. That makes elementary trade or barter no different from any other form of commerce (e.g. options or futures trading): *it’s a classic Zero-sum game.*

Since there was originally no supreme authority or sovereign to oversee trade, we lived in a situation of what international relationship theorists call “international anarchy” (“inter-tribal” anarchy perhaps?). This means that potential trading partners had a trust dilemma. The overall best outcome of a trade is if both parties trade fairly. However, the rational choice would be to double-cross your partner – either by bashing them over the head and taking everything, or by selling them a proverbial pig in a poke.

John Nash, of *A Beautiful Mind* fame, had one of the most ugly and yet influential minds of the Cold War. He set the tone for bringing humanity to within a hair’s breadth of total annihilation by showing in his game theoretic “Prisoner's dilemma” that non-cooperation in nuclear arms agreements was the most rational (i.e. most alien cortex, and therefore preferred) strategy. It turns out that Thomas Hobbe’s social contract was made to be broken. Nash showed that a rational agent should always betray their trading partners.

It was called the “sucker’s payoff”. It was not a good outcome by any means, but it was a safe and rational outcome in a world without trust (i.e. without the irrational instincts and “biases” of the primate brain to anchor it or an overarching meta-alien cortex to mediate it fairly).

It's worth pausing a moment to think about this. Our whole neo-liberal world is built on Adam Smith’s “Rational choice theory” – if individual actors pursue their own

rational self-interest, then the aggregate social behavior will be the best for everyone. The “invisible hand of the market” (was it digital?) will move mysteriously to make it so, just so long as the markets are free from interference. When this rationale is trotted out you seldom see anyone raising the objection implied by Nash’s theory – that if everyone pursues their own rational selfish choices then the outcome is miserably suboptimal for everyone.

Free markets are *Pareto optimal*, meaning that no participant can be better off without making some other individual worse off. It’s the nasty and brutish world of Al Pacino in the movie *Scarface*. Hobbes had it back to front.

The only reason free markets really work in practice is that actors in them are normally *irrational*. Thanks to their primate brains (what rationalist alien cortexes would pejoratively call a “defect” or “bias”), market participants usually demonstrate an irrational and unwarranted amount of trust in their trading partners. Perpetual gullibility is the only reason markets, and hence civilizations, work at all.

> What the Prisoner’s dilemma expressed was the strange logic of the Cold War. The optimum solution – offering to get rid of all your weapons provided the Russians did the same – could never happen, because you couldn’t trust them not to cheat. So instead, you went for stability created by a balance of dangerous weapons on both sides. What Nash had done, was to turn that into a theory of how the whole of society worked.
>
> - Adam Curtis, *The Trap*, *Part 1. "F**k You Buddy"*

In Adam Curtis' insightful documentary *The Trap*, the first episode, where Nash's work at the Rand Corporation was covered, was subtitled *Fuck You Buddy* (or *F**k You Buddy*, because the alien cortex just can’t help itself suppressing or inhibiting arousal of the reptilian brain and censoring reptilian expressions like “fuck”). The subtitle comes from a board game Nash invented while at Rand, called *Fuck Your Buddy*.

Essentially it's a slave trading game played exclusively using the alien cortex with slaves represented by tokens.

The game requires making agreements with the other players that are ultimately unenforceable. To win, players must eventually renege on their agreements. It’s a case study in the fate of our planet if the alien cortex is left to run its planet destroying program to completion.

While Nash was coming up with his dystopian world-shaping ideas at Rand, none of his associates knew that he had undiagnosed paranoid schizophrenia. His suspicious mind was the basis of all his theories and they resonated well with the paranoid mind of America at the time.

However one should be cautious about merely pathologizing Nash and Cold War politics. That would be to allow one's alien cortex to label, reject and pigeonhole *itself via proxy* – and then get off scot-free! Fingering the actual culprit, it's easy to see that the alien cortex is paranoid. It, like Nash, is trapped in its own cage of self-debilitating rationality, and therefore so are we as a species. And yet we can't abide abandoning rationality either.

The trap in question in Curtis' documentary is that "Human beings will always betray you. You can only trust the numbers" (i.e. digits). The alien cortex evolved to betray us as a species, ironically because it has evolved to make sure we are not betrayed as individuals in a supposedly untrustworthy world.

Why is the world untrustworthy?

It's because of the alien cortex itself and all its incessant rationalizing. Rationalizing breeds distrust. And yet the alien cortex's preferred environment – civilization and the marketplace – can only exist if the majority of people are trusting, and therefore irrational. Civilized humans are caught in a trust paradox.

Note that the word "rational" comes from the Latin *ratio*, meaning "reckoning, numbering, calculation, business affair or procedure".

However "ratio" in the sense of a mathematical relationship between two numbers is more appropriate. I think our alien cortex evolved primarily to make sure other alien cortexes in an increasingly duplicitous world, the new world of the free market, did not trick us. The game of Chess must have fallen almost naturally from our recently civilized braincase like an overripe fruit.

The Pirahã people avoid counting, but they have alien cortexes and they are just as good at gauging the ratio of two quantities in a trade as anyone else. For example, they can estimate very well if a pile of Brazil nuts is worth more or less than a pile of sugar, powdered milk or whiskey at the going rate. That's what our alien cortex has evolved to do. It's a brain module for gauging ratios, and weighing relative quantities, especially in trading transactions.

But don't assume that it's evolved to make sure that trade is fair and equitable. Because trade is competitive, the alien cortex has also evolved to be Machiavellian and deceitful. The alien cortex evolved for a universal Hobbesian game of *Fuck Your Buddy*. Especially if the trade is a one-off affair without much penalty for dirty dealing, as it usually is in a large urban environment with more actors than the human Dunbar limit can handle.

Most people assume that the weighing scale or beam balance was invented in order to ensure fairness and justice in the market. But in reality it was invented as a way to mollify and cheat your suspicious alien cortex. Weighing scales are in evidence

4,600 years ago in the Indus Valley and they are still used by vendors in India and other parts of South Asia and around the world to this day. Without a doubt it was invented by con men as a simple marketplace trick. They are as old and hackneyed as Three-card Monte or any other marketplace shell game.

Don't expect them to disappear from street markets anytime soon, because replacements like digital scales, although cheaper, are harder to use for cheating! Go to a market in India or China today and you will still see vendors using scales to cheat their customers exactly as they have been doing since marketplaces began. Even in Ancient Egypt there is evidence of false weights and measures. The scam involves so many sleights of hand they are impossible to list – using pans of different weights, using false weights, using magnets, and the time-honored favorite of "putting a thumb on the scale".

What fools the human brain is the optics of the balance scale that makes things look all square - literally.

Earlier, I mentioned that the alien cortex adores rectangles and in particular squares. It's hardly even a joke that in the Sixties and Seventies they would say, "Don't be a square, man!" meaning, "don't be a buzzkill, dude!" (i.e. "don't be an alien cortex and inhibit your fun-loving primate brain!").

Once you appreciate the alien cortex's obsession with squares, the ridiculous square academic cap or mortarboard comes across as hilarious. Not only is it black (the alien cortex's favorite color after white), but it also usually comes with a black gown or cassock, which is traditionally supposed to represent the death (or suppression, or mortification) of the human body. One could hardly imagine a better caricature of the alien cortex.

Not quite so funny is the similar black cap used in English law, which was worn by judges passing a death sentence. Worn over a traditional judicial wig, which looks uncannily like the human brain, that black square of cloth couldn't possibly leave victims in any doubt that an alien cortex in full regalia had weighed the evidence and decided to murder them. Since Britain is more dominated by the collective mammalian brain these days (i.e. the nanny state), that kind of behavior is no longer considered "nice" and has since stopped.

If anything broadcasts the alien cortex writ large on the landscape, it's the grid pattern of urban environments. Seen from the air, the agricultural land that serves the alien cortex's metropolitan grid is also usually a patchwork of squares (though these days many have circles in them due to center-pivot irrigation). This trait is so noticeable in early agriculture, of the sort used to support urban areas, that I think it deserves the name "geometrical farming" to distinguish it from forest gardens and other forms of more sustainable cultivation.

Because we moderns are dominated by our alien cortex, right angles and geometric

shapes seem perfectly natural, even comforting, to us. But to a hunter-gatherer the sight of an endless grid at scale may even be frightening – like observing the Earth has some kind of rampant, unchecked, checkered skin disease. Which is perhaps not far
from the truth.

It comes as a surprise to most people that grids and geometric plans are not very efficient and not a very good use of space. Hexagon or honeycomb town planning, for example, would greatly reduce traffic congestion, reduce intersections and shorten journeys. Spirals or fractal designs would speed up warehousing and shopping. So the fact that modern life is organized around rectangular shapes is inefficient and nonsensical. We only do it because of the quirks and proclivities of the alien cortex. We really can't help ourselves.

The truth is that there are so many right angles around us these days that our alien cortex is almost blind to squares and geometric patterns. It just seems "right" or "normal", so we are barely aware of living in a world of boxes (or cages). For the modern post-human, it's like water to a fish.

I suspect that the gradual development of geometric patterns in the archeological record tracks the evolution of the alien cortex. They first make an appearance as glyphs and graphic symbols in cave art.

The appearance of non-functional geometric marks produced by early hominids has caused considerable debate in academic circles. One camp says the marks are representational or symbolic, while another holds that they are pre-symbolic and derive from a proto-aesthetic bias linked to how the early visual cortex functioned. A recent study based on neuroscans supports the latter conclusion. "Neuronal recycling" in archaic humans is claimed to be responsible – *our visual apparatus made us do it!*

My guess is that's true, but only to a certain extent. I think that the cave art was probably done by shamans who popped in and out of states of meditation to draw the phosphenes they saw behind their eyelids on cave walls, so that part of the story fits. It's still done today, often in semi-secret, by mystic initiates in South Asia. Sometimes a guru does it so that a disciple can transfer his or her own brain wiring to a disciple through meditation – a kind of spiritual "Borg mind meld". And sometimes initiates do it themselves to enhance the phosphene images they see during meditation, which is a kind of deliberate and directed "neuronal recycling". They paint the mandalas they can see as phosphenes as they progress through different esoteric spiritually induced states of mind.

But I would argue that both camps, the symbolic and the neurological, are missing the most salient point. The geometric patterns actually herald the arrival and subsequent evolution of the alien cortex.

Paleoanthropologist and rock art researcher, Genevieve von Petzinger, thinks that the earliest writing systems predate the Sumerians cuneiform tablets of around 5400 years ago, which are commonly assumed to be the first writing. By ignoring the pictorial cave art and focusing on just the symbols, she discovered that there were 32 signs consistently carved and painted for tens of thousands of years all over the world.

Starting in Europe 40,000 years ago, these standard shapes diffused around the globe in what she believes to be a precursor of the global network of information exchange we have today. Von Petzinger advocates the idea these 32 simple shapes represent a "fundamental shift in our ancestor's mental skills" toward using abstract symbols to communicate.

But are they really attempts to "communicate"? If so, who was trying to communicate what to whom, and why?

Because the alien cortex dominates our world, our interpretations of early cave art are biased towards assumptions that the art is trying to communicate or convey something to us. When considering cave art, our modern alien cortex naturally looks for an ancient alien cortex trying to pass a message. But we overlook the fact that before the urban environment bred them, there were no alien cortexes of our sort back then. Our modern alien cortexes are looking in vain. So cave art is certainly not "writing" or "messaging" and, as to be expected, all legitimate attempts to decipher it that way have failed.

Perhaps the symbols really are just artifacts of how our visual cortex is wired after all. It's possible that the cave artists were just doodling visual after-images that they traced out on rock surfaces, possibly under the influence of hallucinogens. They might have just been capturing and permanently fixing in art some of the interesting optical anomalies that they were hallucinating. Perhaps the reason there were only 32 universal forms is because we share the same 32-pattern neural wiring in the visualizing part of our brains. If so, the question still remains: *why did cave art suddenly start 40,000 years ago in Europe and then diffuse around the world from there?*

My explanation is bound to be unpopular, but I think it's the only theory that fits the facts. I think that the first artists were psychologically disturbed people. They were the first hybrids between Neanderthals and the first members of our species to venture out of Africa. The brain function of the two species was mismatched, and the result was art.

Having said this, straight away we find ourselves embroiled in the overheated politics of nomenclature. Let's pause a moment to try to sort our labels out in what promises to be a minefield of controversy and animosity.

Before the late 1990s, the humans migrating out of Africa into Europe were

commonly called “Cro-magnon”. At that time most scholars furiously rejected the notion that Cro-magnons and Neanderthals could possibly interbreed, so there was a movement to drop the term Cro-magnon based on the reasoning that “Cro magnon” simply means “us”, so why not just call them “humans” (formally “European early modern humans” or EEMH, to be pedantic).

Unfortunately for political correctness, the “us” became much more complicated in 2010 when Svante Pääbo’s research team at the Max Planck Institute published the first Neanderthal genomic sequence. To scholar’s horror it turned out that people outside Africa were genetically 1-4% Neanderthal. After a century of progress in race relations and civil rights, that’s the last thing liberal academics and social justice warriors wanted to hear. Having insisted for decades that race was “not a scientific concept” and the “all humans are the same”, it turned out that White, Yellow and Brown people were not only racially different from Black people, but were almost a different species.

Naturally there was a concerted effort to downplay the significance of the finding in terms of an ethnic divide, and Liberals worked overtime to argue that 1-4% is inconsequential, but the fact remains that the genetic difference between humans and chimps or bonobos is only about 1.2%. In addition, upwards of 20% of the whole Neanderthal genome is preserved in that 1-4%, which means that, considering the gap in time, hybridization must have been as thorough and equal as the mix between a Lab and Poodle in a Labradoodle, or horse and donkey in a mule.

The last gasp, before retreating into a sullen sulk, in the movement to deny significant racial diversity in humans was to claim that the Neanderthal genes were “silent”, or not expressed in modern people. That has also turned out to be anything but the case. The Neanderthal genome is strongly expressed in skin, hair and the diseases of modern people. Increasingly researchers are finding expression of the Neanderthal genes in the biggest political no-go area of all: *the human brain*. I think it's time for Liberals and Left-leaning academics to face facts. Well-meaning reformers and advocates of social justice had a good run during the last Century sweeping aside racist ideologies as unscientific nonsense. But that stance has become increasingly untenable.

In the face of mounting scientific evidence, at some point all political factions are going to have to get together and pick through the old, too hastily rejected theories of bigoted racial intolerance, ethnic differences and various claims to genetic superiority and sort out fact from fiction more thoroughly. As the picture grows more complex, we need to revise what it means to be human, and the first prejudice that needs to be thoroughly re-examined is the Liberal conceit of alien cortex supremacy.

The suggestion that some or other ethnic group has a lower average IQ (i.e. is less dominated by the alien cortex) is not automatically an intolerable racial sleight or unacceptable “hate speech”. That kind of bigotry comes straight from the alien cortex, and it needs to end. The prejudice that Liberals have that the alien cortex

way of thinking is the only acceptable way of thinking is actually contemptible racism. Remember that high IQ and EQ are killing us.

If you learn anything from this book, it should be that the alien cortex is terminal for our species, and so the people that should really be taking offence are those accused of having a high IQ, a huge intellect, or a rampant alien cortex. If you value the sustainability of life on this planet, it's actually a compliment to say someone is relatively free of the human's eco-genocidal Brain slug. The prejudice is all in the alien cortex. Since the alien cortex, its cultures and its civilizations are pathological, is hardly a complement to accuse someone of having pathology

*Remember that when you next accuse someone of being civilized!*

The first unpleasant reality we have to come to terms with is the fact that Caucasians didn't turn from Black to White in a mere 20,000 years after leaving Africa through Darwinian natural selection for Vitamin-D production or some other such nonsense. Indo-Europeans became White by hybridizing with pale-skinned Neanderthals. That's how thorough the interspecies mingling was.

And we should brace ourselves for the discovery that Asians owe their skin color to interbreeding with Denisovans (about 3–5% of the DNA of Melanesians and Aboriginal Australians and around 6% in Papuans deriving from Denisovans). Most awkward of all, we need to face the fact that this crossbreeding profoundly changed our brains and our way of thinking in modern times. Not everything is cultural and mutable – the myth of a *tabula rasa* that Liberals have got away with for over a century. The science is in, and most of what we do is fixed in our genes, whether alien cortexes like it or not.

Liberals have to accept that "cancel culture" and just shutting-down the debate on the grounds that its "hate speech" is no longer viable when it comes to broad ethnic and racial differences amongst humans. Saying "we are all the same" is its own insidious kind of racism. If social justice warriors try to persist with that strategy then it will soon backfire, because far-Right extremists will be more than happy to pick up the latest science and run with it to conclusions that are the exact opposite of the racial harmony and social justice that the Liberal Left is trying hard to achieve.

So with all of that mind, for purposes of discussion, as politically incorrect as it is, let's agree to call the people who migrated out of Africa *Cro-Magnons*, and the Neanderthal-Cro-Magnon hybrids Caucasians, Europeans or Indo-Europeans (and we'll even compound our sins later by referring to some of them as Aryans – a huge *no-no*).

The picture emerging recently is messy. There were two major Cro-Magnon migrations out of Africa. It looks increasingly like the usual dates given (of about 60,000 years ago and about 40,000 years ago) are too recent. The actual migrations probably happened more like 200,000 and 60,000 years ago (and the Neanderthal

exodus from Africa was probably hundreds of thousands of years earlier than that). Ancient people in the Near East also migrated back into Africa in the past few thousand years and spread their DNA to many African populations. Whatever the exact dates, the important thing to note is that humans started doing cave art for the first time around the time Cro-Magnons and Neanderthals interbred. I think we should assume that crossbreeding the two hominid species was causal in the generation of art (amongst many other cultural and social repercussions).
Long before psychoanalysts tackled "the problem of the artist", artists were generally known as vexed and troubled individuals. That could be because Neanderthal and Cro-Magnon brains diverged significantly since their last common ancestor. Reunited, their neurology and psychology were possibly not well integrated. To be blunt, the two species were not a great "fit".

The popular notion of "hybrid vigor" is really a myth. For starters, most of the hybrids were probably infertile.

It's generally accepted now that autoimmune diseases stem from Neanderthal genes. Genes linked with type-2 diabetes, Crohn's disease, lupus, eczema, asthma and allergies involve an overactive antibody response of the immune system. It amounts to the body attacking itself ("auto" means "self"). Pale-skinned, blue-eyed, freckled, red-haired and fair Caucasians are prone to having their Cro-Magnon self attack their Neanderthal side as if it were a hostile invader. In a sense it is. And the two different brains were equally uneasy bedfellows in the Caucasian braincase.

I would propose that Indo-Europeans are also prone to an analogous form of mental, emotional and psychological schism and a kind of neurotic self-antagonism very similar to the autoimmune response in the immune system. The internal mental conflict that often results is the cause of the creative arts (and a lot of neuroticism). It's also a source of existential angst, self-loathing and suicide.

One instantly think of the pale-skinned, neurotic, involuntary-celibate Vincent van Gogh.

> The similarities between madness and modernism are striking: defiance of authority and convention; an extreme, often dizzying relativism, which can culminate in paralysis; nihilism and all-embracing irony; a tantalizing, uncanny, but always frustrating sense of revelation; obliteration of standard forms of time and narrative; pervasive dehumanization; and disappearance of external reality in favor of the omnipotent ego or, alternatively, dissolution of all sense of selfhood.
> - Louis Sass, *Madness And Modernism: Insanity In The Light Of Modern Art, Literature, And Thought*

Louis A. Sass, a clinical psychologist who specializes in psychopathology and the arts, observed that there are an enormous number of aspects of modern culture that simulate schizophrenia.

He noted that the standard psychoanalytic view of the modernist madness of artists, such as the French Surrealists and Russian Formalists, were manifestations of "regression" to primitive or Dionysian modes of consciousness (i.e. reversions to the older four brain layers). He suggested that the opposite might be the case – modernist art and culture come from the Apollonian (i.e. alien cortex) aspects of madness. Maybe it resulted, "not from a weakening or an overwhelming, but from a hypertrophy of conscious awareness".

In other words, he was saying that maybe the schizophrenic flavor of our civilization came from the increasing dominance of our alien cortex, and not as the result of a descent into the immediacy and embodied awareness of our primal ancestral brains. The surreal madness was upstairs rather than downstairs.

I think both views are equally valid. It's really the conflict between the Neanderthal and Cro-Magnon brains which both have incompatible upstairs and downstairs parts. My guess is that Neanderthals were more solitary and might have had a stronger sense of personal ego and individuality (signature traits of the modern Indo-European alien cortex), while Cro-Magnons were more pro-social, group oriented and less egotistical. There were profound world repercussions from trying to integrate the two. Sigmund Freud claimed that the Oedipus complex was the cause of personal neurosis and the source of all art, myth, religion, philosophy, therapy and hence all human culture and civilization.

One of his disciples, Otto Rank, studied art and artists in more depth and disagreed. Rank emphasized that artists were divided people who felt a strong longing for attachment and the "will to unite". I think that "art as therapy" is possibly an attempt for reconciliation and unification between the Neanderthal and Cro-Magnon brains. In *Art and Artist*, Rank said that art was the never-completed process of learning how to "step out of the frame" of any mindset. I would clarify that by saying that it's the human side (the older four brain layers, and hence the Neanderthal brain) trying to step out of the alien cortex's Procrustean frame.

In a sense art can be understood as a kind of "chatter" or crosstalk of mutual self reflection between our semi-incompatible left and right brain hemispheres (i.e. the older four brain layers communicating with our alien cortex). The older brain layers communicate using images ("art is something you must feel, rather than interpret"), and our alien cortex tries in vain to tease out abstract symbols from an image (especially in cave art). But it's not really quite as simple as the old pop psychology idea that "the left hemisphere does language and reason and the right does emotion and pictures".

An anecdote I heard about an anthropologist observing an Indigenous Australian touching up and renovating some ancient artwork in a cave is instructive. Hoping to gain an insight into what motivated ancient people to do cave art, the anthropologist asked the painter why he was painting. The man replied that he *was not painting*.

Totally baffling the scientist, the man explained that “it” was doing the painting, not “him”. My interpretation of that is that “it” refers to the human spirit (i.e. the older four brain layers) whereas “him” refers to his alien cortex. The older human inside was communicating with his alien cortex through the medium of murals. Shamans would probably express that to our modern alien cortex as “bringing back messages from the spirit world” (they are really only about a corpus callosum apart!). What would the older brain (or spirit realm) be saying?

In essence it's usually a cry for help. It’s a plea to be liberated from oppression and inhibition by the alien cortex. The expression emerges as a distorted reflection or caricature of the worst excesses of the alien cortex reflected back to itself. What the avant-garde Cubists of the early 20th Century were doing is saying to our collective, cloth-eared, alien cortex, “You are being too square! Think outside the box! Stop caging everything! Let me go free!”

To no avail, or course.

What else was Piet Mondrian saying with his rectangular, monochromatic art, other than, “Hey, alien cortex, this is you, asshole!” Marcel Marceau’s “mime trapped inside a glass box” act was basically the same thing.

I think the secret to Mark Rothko’s popularity is that he fused the phosphene images behind our eyelids with a rectangle. Even he didn't know what he was doing, but, I think he unconsciously returned to the methods of the first cave artists or shamans capturing phosphene mandalas and then give them a shape that appeals to the alien cortex. As such, it was a semi-successful attempt to unite our divided brains. If you close your eyes (or gently press on your closed eyelids) you can usually see an explosion of phosphenes that mystics often interpret as our “Third Eye”.

Like most mandalas, the “eye” is round. But what Rothko did was to make it rectangular – a rapprochement between alien cortex and the other brain layers. The first cave artists were obviously not doing anything so bold. They were probably just gingerly exploring visual afterimages by torchlight in caves. I’ll come back to the mythology they were probably working from, and their motivation, but for now let’s assume that they were just picking out patterns on rocks, or from their visual imaginations, and then turning them into murals. Imagine an exercise much like looking at shapes in clouds or picking out objects from patterns in glowing embers. The artist, in a meditative mood, would slowly put dots on the outlines of key features that could possibly be picked out from natural patterns in the rock.

I think in their minds they thought of the rock face as a kind of impenetrable membrane separating them from the spirit world, or afterlife, like a pane of glass that one could see through using your imagination. The image would be traced out and built up slowly by a kind of pointillism. When there were enough dots, then the artist would join them up boldly and confidently to complete the final image with broad strokes. Voila! The ethereal ghost was captured from the dream world

(unconsciousness) and brought onto this side of the membrane (consciousness). It's basically Freudian dream imprecation in pictures – a precursor to the modern cinema. If this interpretation is correct, then it's useful because one can clearly see the gradual evolution of the alien cortex in cave art. Some of Genevieve von Petzinger's 32 symbols are clearly 4-sided signs, hatch marks and scalariform objects (ladder like shapes) that I would attribute to the first emergence of the alien cortex (at least in hybrid-Neanderthal form). They appear in 20% of French caves, starting in the Dordogne in southwestern France and spreading south later to the Ardeche and the Pyrenees.

Dramatic quadrangles soon appeared in the caves of El Castillo, La Pasiega, Las Chimenas and Altamira in Spain. Eventually one can see evidence of rectilinear forms gradually being transferred to architecture. By the time of the first cities, leading all the way up to today, urban design becomes chronically, almost pathologically, geometric.

All over the world, all human dwellings outside of caves were once round or circular – from yurts and teepees to African grass huts. In archeological ruins in Europe you can see the transition to geometric layouts frozen in time. In some sites you can clearly see the process in mid-transition. Most of the dwellings are round, but here and there some are just starting to be made according to a rectangular plan.

What, apart from possible visual bias, accounts for the alien cortex's obsession with rectilinear forms?

It may sound counterintuitive, but I would argue that it's from commercial trade in the marketplace.

Research shows that monkeys and primates have a well-developed sense of fairness, but their skills are underdeveloped when it comes to surveying and comparing quantities. If my guess is right, that the alien cortex is a novel brain adaptation used to gauge ratios and assess relative quantities for fair trading purposes, then it's easy to see why it prefers squares. I believe our alien cortex is biased towards equilateral figures because they are linear, parallel and equal, so they literally seem "right", and reduce the cognitive stress that even a crooked picture on the wall causes our fifth brain layer. The opposing sides of the figure are more than just symbolically equal in a square; they are perceptually equal and balanced according to our visual cortex. It's literally "fair and square".

It's not accidental that we have the expressions, "a square deal" and a "square meal", and that Freemason's use the expression "on the square" to describe an honest and fair person. Neither is it accidental that market squares and trading places usually begin as quadrata. The *Roma quadrata* is a fine example. It's easy to forget that Rome, and hence the Roman Empire, started out in the earliest stages of the city's formation as a trading square on the Palatine Hill. My proposal is that all towns, and then city-states and hence empires, started out that way.

Gordon Childe imagined that his mythical agricultural "surplus" allowed villages to grow into towns and eventually cities as part of a kind of green dividend (which he called the "Agricultural Revolution") and that led to his "Urban Revolution". Yet the archeological evidence shows time and again that, just like Rome, the first structure to appear almost out of nowhere is a geometrical trading place or market square. Everything else follows from that. So its inconceivable that agricultural villages morphed into market towns.

Did Childe really believe that at some point all villagers sit down one day and say to themselves, "You know we really ought to demolish the center of our village to turn it into a trading space"?

Villages and towns are two different things. The one cannot become the other. Villages are where people live; towns are where people trade. Over time traders, artisans and courtesans congregate permanently around market quadrata, but they do that at the expense of the surrounding villages and landscape, which they deplete of human resources (usually as slaves and laborers), and then natural resources, in an ever widening circle in order to sustain the central market.

As James Scott points out in *Against the Grain*, the barbarians surrounding civilized (i.e. trade-based) areas generally contribute to their own demise, even if they don't migrate to the urban center, by voluntarily providing goods and services to the market square at a net deficit to themselves and their habitat.

> The second melancholy aspect of the new livelihoods at the periphery afforded by states was, as previously noted, the sale of their martial skills to states as mercenaries. One would be hard put to find an early state that did not enlist nonstate peoples—sometimes wholesale—in their armies, to catch runaway slaves, and to repress revolts among their own restive populations. Barbarian levies had as much to do with building states as with plundering them. By systematically replenishing the state's manpower base by slaving and by protecting and expanding the state with its military services, the barbarians willingly dug their own grave.
>
> - James Scott, *Against the Grain*.

When over-hunting and gathering on the periphery of trading places exhausted the land, then geometrical farming was started as a final desperate act to artificially rejuvenate the depleted local environment. Plundering the corpse of a once bountiful natural larder as a last resort, the townspeople must have divided the near depleted land amongst the rich and powerful so as to extract the last nutrients from the soil before it became totally infertile.The divisions were geometrical of course, betraying the part of our brain that was portioning out what was left of the dregs of Eden.

Of course it didn't work. That's why the first cities in the (once-) Fertile Crescent –

Ur, Jericho, Uruk, Eridu etc. – are all desiccated desert ruins today. The notable features of those ruins are that the now skeletal structures are geometrical and centered around what must have once been a market square – the source of their genesis and the reason for their final demise.

It's hard to imagine villages turning into market towns, because as any explorer knows, villagers are understandably wary of strangers and their motives ("Lock up your daughters, strangers are coming!"). First contacts are rife with tragic misunderstandings, and when they are successful they are usually accomplished with gifts rather than trade. More like, "Please accept this offer of tobacco or salt" in exchange for not getting a spear or arrow in the head.

Travelling salesmen have always had it rough, and generally they could not travel in trading parties of more than one or two, for the obvious reason that they would appear too much like a raiding party. So it begs credibility that homesteads or villages could grow into urban and eventually commercial centers. Up until very recently, trading itself was considered very suspect in many, if not most parts of the world. In the 12th Century the *Decretum Gratiani* codified the Catholic Churches' Canon law with regard to traders.

Up until a change of heart in 1918, when the *Code of Canon Law* superseded the Decretum Gratiani, the official attitude of the church towards merchants and traders for more than 700 years was:

> *Homo mercator vix aut nunquam potest Deo placere; et ideo nullus Christianus debet esse mercator; aut si voluerit esse projiciatur de ecclesia Dei.*
>
> ["A trader can seldom or never please God; therefore, no Christian ought to be a trader; or, if he will be one, he should be cast out from the church of God."]

Talk about biting the Homo mercator that feeds you!

Our adoration of trade and industry is a recent phenomenon that came mainly from Progressive propaganda in support of the Industrial revolution and all its gross and ongoing injustices.

The Ancient Greek *Hermes* (Roman *Mercury*) is associated with merchants. He's also the protector of orators, travelers, gamblers, liars and thieves. He's basically a fast talking snake-oil merchant.

As Mercury, he gave us the words for "merchandise", "merchant" and "commerce" (from the Latin *merx*). Since antiquity he was known as the "divine trickster". His main symbol is the *caduceus*, a winged staff with two snakes copulating around it. The caduceus is still the symbol for commerce and logistics today. Considering that

they are mainly done in fly-by-night places where snakes copulate, one could hardly think of a better symbol for marketplaces.

Mercury's association with travelers is also interesting. The word "trade" comes from Middle Low German, or Middle Dutch, and means a path or beaten track. The words *treten* and "tread" preserve that meaning. Trade was originally all about arbitration between markets – moving goods from areas of plenty where they had low value, to areas of scarcity where their value was higher. Traders were originally like little red blood cells that transported the oxygen around the arteries of trade.

Once a trading hub is established, then, almost like a tumor, the market square starts to extend a network of trade routes out from the center in order to consume its surroundings like a vampire squid. That's why it's said that, "All roads lead to Rome" (or at least its central quadrata).

While trafficking goods from one location to another might be considered "plying an honest trade", exchanging those goods in the marketplace could never be. The astrological symbol of Libra, the calm, rational, balanced and detached balance scales of the market in the Zodiac, are based on the "Scales of Justice" held by *Themis*, the Greek personification of divine law and custom (or perhaps the other way round).

Themis is the personification of divine law, order and fairness. She is the inspiration for modern depictions of "Lady Justice" that haunt legal centers and departments of "justice" all over the Western world. The important thing to know about her is that she became one of the Oracles at Delphi. In case you don't know, the Temple at Delphi was a huge and highly successful money making fraud.

And so is Lady Justice. Like the fraudulent balance scales in the market, her "justice" is actually also a trick.The trick of vendor's weighing scales is to present the illusion of a "fair and balanced" square to the alien cortex, while cheating behind the scenes.

Judicial systems pretend that they are being impartial and fair, but the trick is that they are just there to preserve the status quo and prevent social change. Since the status quo is unequal and socially unfair (a basic affront to our primate and mammalian brains), the trick Lady Justice perpetrates (as the alien cortex in disguise) is to guarantee that the system stays rigged in the property owners' favor.

> The rich man in his castle,
> The poor man at his gate,
> God made them high and lowly,
> And ordered their estate.
>
> - Cecil Frances Alexander, *All Things Bright and Beautiful* from *Hymns for Little Children*.

By safeguarding property rights, she's there like a broken balance scale to ensure that the rich man is forever secure in his castle and the barbarians are forever at his gates. That's called *Law & Order* in our culture and little children are sung hymns about how utopian it is. The best alien cortex wins the game of *Fuck Your Buddy* and fraud in the marketplace accomplishes the trick.

But potential social reformers take note: *this is not sociological, cultural or economic.* It's in our genes. As long as our individual and collective alien cortex dominates the rest of our brains, this is how things will be. The reason why it's not like this with most indigenous people is that they, unlike us, have not been bred as fodder for the marketplace for at least the last 20,000 years.

For the past century or more educators have been saying that, "Humans are no longer subject to evolution. Once we left the evolutionary pressures of predators in the wild, we stopped evolving".

However, that's not true at all. Recent genetic studies have shown that not only are humans still evolving, our evolution since the dawn of geometrical agriculture is actually accelerating. It should come as no surprise to you after reading this far that most of the evolutionary changes are happening in our brains. The alien cortex is visibly breeding itself through marketplace dynamics and an autogamous, self reinforcing, feedback loop.

The evidence is in our genes. To disprove it, show that increased brain devolution (i.e. hyper alien cortization) is not correlated with urbanization.

In some respects the alien cortex could be considered a recent amensal domesticate - a harmful parasite that came with domestication and urbanization. Part of the reason for the recent evolutionary acceleration of the alien cortex must be sexual selection. Hypergamy in both males and females must surely account for at least some of the evolutionary trend.

Because marketplaces are competitive zero-sum games, in order to be successful in trading places you have to be Machiavellian. For most females, since our recent domestication and urbanization, a rich metrosexual guy has become a "catch" and a good breeding partner.

While most competitive behavior in the marketplace has traditionally been dominated by testosterone, female competition for males that have "made a killing" in the market has created a secondary competitive meat-market for eligible males.

> "In this country, first you get the money, then you get the power, *THEN* you get the woman."
>
> - Al Pacino as *Tony Montana*, in the cult classic, *Scarface*.

Outside of egalitarian indigenous cultures, or away from Childe's "savages", studies have shown that women (i.e. most metrosexual women) are preferentially attracted to men with the so-called "Dark triad" of malevolent personality traits.

In applied psychology, the dark triad covers overlapping personality traits of narcissism, Machiavellianism, and psychopathy - all signatures of the alien cortex. Dark triad men are less compassionate, empathetic and "agreeable" (i.e. less dominated by the mammalian brain) and are more likely to be paranoid, malevolent and distrustful of others (i.e. more like John Nash, and dominated by the alien cortex rather than the primate brain). They are more likely to commit crimes, achieve success in business, and assume leadership positions (as the US presidential record amply testifies).

In effect, civilized women are selectively breeding psychopaths.The converse is not quite so true. Dark triad men preferentially prefer docile, compliant and agreeable men and woman.

So together both heterosexual breeding partners in the urban, social-climbing, free-market environment have been evolving a race of masters and slaves. Perhaps Aristotle was not far off the mark when he observed that some people are naturally born to be slaves (others, psychopaths). How did this come about?

Chimp communities do not mix, and males of different communities engage in lethal battles, but bonobo and chimp females will wander between groups, often at the onset of adolescence. Female primates have much more liberty to approach strangers than males. The easiest trade to imagine is between a male and a female. At first, commercial intercourse amongst strangers *was intercourse*. The "oldest profession" was literally the oldest trade!

The evidence for this comes from primatologists. They routinely report observing animal prostitution among their subjects. For example, Suehisa Kuroda reported a young female chimp approaching a male and offering him sex in exchange for one of his pieces of sugarcane.

Scientists are certain that this is genuine prostitution and not just sharing because of a study done at Yale to teach capuchin monkeys how to use money. They gave them token dollars that they could exchange for grapes, candy, cucumber and Jell-O.

The interesting thing is that the monkeys displayed exactly the same behavior as humans in market situations. They took advantage of bargain prices, gambled the same way as humans, and even exhibited the same human bias for irrational "loss aversion". The monkey data was statistically indistinguishable from most human stock-market investors.

But the most interesting discovery of all was that the introduction of money to

monkey society led to all sorts of vices, including theft and prostitution. In one instance a female monkey who was paid for sex immediately traded the token in for a grape. Monkey sex is apparently cheap! It's easy to envisage a hungry female hominid gingerly approaching a male stranger out on the African savanna who was busy either fishing, working a trap, or butchering a kill etc., and the two of them exchanging sex for meat.

The breeding potential of this encounter for the alien cortex should not be overlooked. The point to note here is that the female would come away from the exchange with nourishment and the sperm of a male that could successfully lead to offspring that benefited from their parent's enhanced traits of xenophilia, rather than the usual xenophobia. Over time, such mutually beneficial trades must have become ritualized and localized in special locations.

Bear in mind that the trade is still fraught with risk. If some male members of the female's tribe should come along, if the hominids in question were anything like our chimp cousins, then they would likely chase down and tear the female's paramour limb from limb.

Therefore, if the trade is to become regular and culturally ritualized, it needs to preferentially happen on some kind of neutral ground or universally recognized place of sanctuary. Just like any risky drug or sex trade that Scarface might do, the place of exchange has to be agreed with care, otherwise one side might have an advantage over the other. You may recall how in the movie, Scarface's crony got minced by a chainsaw because they were foolish enough to do a drug trade on the dealer's home turf!

As it happens, since time immemorial there have been places in the wild that were special and revered as being sacred, haunted or imbued with a natural air of mystery. Explorers in Africa have often observed that there are select places and times which even wild animals seem to respect as sanctuary, for example a spring or waterhole. Although crocodiles might not observe the convention, predator and prey can sometimes be seen watering together in a kind of armistice. Because of their natural aura of neutrality, I think those places lent themselves to being the first sites of free market trade and exchange.They were in effect sacred sites.

If that's correct, then straight away one can see the jarring contrast of the sacred mingled with the profane. And yet that neatly answers the question of why "sacred prostitution" was practiced in ancient temples, and what all those merchants and moneychangers were doing in the Holy Temple in Jerusalem when Jesus threw them out (according to the Synoptic Gospels). My assumption is that naturally holy and revered places gradually got commercialized and became recognized trading centers. It was those that eventually became cities. Villages and settlements operated under another dynamic entirely.

If the story about Jesus were true, then trying to separate merchants from temples would be impossible, because merchants and religious temples are inextricable. As it happens, scholars believe that the "cleansing of the temple" story in the Bible is fiction, mainly because the Temple courtyard *was a marketplace* – essentially a shopping mall, with the inevitable security guards. It probably had large signs posted in many languages at the entrances saying something like: "Disturbing the marketplace or interfering with trade is punishable by death".

Scholars are in no doubt that if a historical Jesus had really run amok in the Temple with whip in hand his story would have ended there and then. He would have most likely being cleaved in two from crown to sandals by one of the sword wielding Temple guards or legionaries from the Antonia Fortress, which was built nearby to protect the Temple from exactly that sort of thing.

This is a very important point, because it underlines the next phase of the marketplace's development. Once trading places were established, they were quickly taken over by strongmen and what boils down to an early form of Mafia. Warlords soon offered "protection" to early market traders in exchange for "taxation" much like playground bullies.

Just like with the Mafia, the "protection" they were selling was mainly protection from them and shakedowns by their own goons. Historians used to think that city defensive structures were built to defend against "barbarians at the gates." Increasingly they are coming to see that city walls had a dual purpose. They were equally there to keep the punters in.

The best way to think of a city is as a downtown nightclub.The bouncers stand at the door to control entry and turf out any troublemakers (like Jesus). A Mr. Big who owns the whole operation relies on his goons to fend off encroachment by potential competition in the neighborhood and to avoid trouble.

Mr. Big gives special favors to his rich cronies and they get the champagne treatment and celebrity seating. People flock to get in because they (or their reptilian brains) are attracted by the promise of sex, drugs and alcohol. They are taxed at the door, and may find it hard to get out again because there might not be a door handle on the inside. The patrons get fleeced at the gambling tables but don't seem to mind, because they are "having fun".

Wage slaves serve the drinks, wait on tables, act as croupiers, and clean up the vomit. Sex slaves serve the customers with drugs, drinks and favors. Mr. Big rakes in the cash until he has enough dough to buy a bigger joint. And so it continues. That's essentially the Urban Revolution and Civilization in a nutshell.

What's the evidence for this?

It's really everywhere. It's just that scholars studiously try not to look.

Let's start with the sites of early trading places.

I've sailed round the Greek islands for years now visiting ancient historical sites. Whenever I visit a historical site, say a temple, I set myself the task of finding the original reason for the site's existence. It's usually quite obscure, and often almost lost in time, so finding it is quite fun, but without fail there is always some forgotten and neglected little corner of the complex somewhere that betrays the site's true origins.

Once you find it you can clearly see how the whole story unfolded.

The pattern is as tediously consistent as the scholars who ignore it, or, like the tourists, get so dazzled by all the later developments they fail to appreciate its significance. It's usually something like a healing spring, a sacred lake or grove of trees, a lookout point or natural marker, or a grotto. One can often clearly see the original source of attraction and how it was lost and subsumed as the hot spot was gradually commercialized, aggrandized and turned into something else – basically always some version of city nightclub or temple complex, which, as we shall see, are basically the same thing.

For example, almost all the tourists who flock to admire the fantastic sights at UNESCO World Heritage Site at Delhi fail to visit, notice or appreciate an ancient little water fountain tucked away in one corner called the *Castalian spring*. Those passing by casually fill their water bottles, sit for a while in the shade, and then move on to take selfies in front of the next great temple in the complex, without realizing they are looking at the real reason that all the magnificent ruins, including the Temple of Apollo, happen to exist.

Even today, if you care to give it due attention, the Castalian spring retains a vestige of sanctity that was probably appreciated by Neanderthals and other humans who lived in the local area before our species even stepped out of Africa. Because the site had a special aura, it was ready-made for trade, because it was probably generally respected as neutral ground.

The first thing traded for cash at Delhi was prophecies. People must have noticed that anyone bathing in the spring often came back babbling incoherently in a way that the ancients assumed was some kind of connection with a divine or metaphysical realm.

There is some dispute now about the actual gas responsible, but probably ethylene is emitted into the spring from a geological chasm underneath. The vapors are hallucinogenic, and induce a state of mind that was considered prophetic. At some point, enough supplicants must have come to the site explicitly seeking out prophecies for an entrepreneurial bunch of locals to turn it into a fulltime job. It was a money-spinner.

The hallucinogenic qualities of ethylene (plus an overactive reptilian brain and the power of suggestion) might account for the myth that a huge python guarded the spring, making it doubly sacred. Thanks to Monty the Python, the priestess of the oracle at Delphi became known as the *Pythia*. That's where we get the expression, "a pithy saying".

Once established in the highly lucrative prophecy business, the locals at Delphi branched out into building temples, theatres, a gymnasium, a hippodrome and a sports stadium, in order to boost the attractiveness of the site and draw in ever more supplicants. As if that wasn't enough, they started the *Pythian games*, one of the four Pan-Hellenic games in ancient Greece. The place soon started looking more like a theme park than Disneyland. And all tanks to the humble, mostly forgotten, little spring.

The loot came pouring in, and eventually it paid for the biggest attraction then and now: the grand Temple of Apollo. It's notable that the Sacred Way up to the temple is brimming with "treasuries". The treasuries, like the Temple of Apollo itself, have the same architectural design as most central banks and stock exchanges.

There's a good reason for that. It's because, as you now know (but apparently Jesus didn't), there is actually almost no difference between a treasury, a bank, a commercial exchange and a religious temple. The bank was the temple and the temple was the bank. That's still more or less true to this day (though now we mostly worship The Economy™, rather than Apollo).

Adherents to Gordon Childe's theories should note, that the Sacred Way up to the temple eventually became lined with commercial and industrial establishments, such as workshops and artisanal settlements.

No doubt sometime later, maybe much, much later, geometric field agriculture must have started in the local area to support the growing theme park staff and street vendors along the Sacred Way. Visitors to Delphi today sit drinking wine and enjoying Greek salads covered in olive oil and feta that come from the patchwork grid of fields in the valley below. Only with a bizarrely inverted worldview can one imagine the fields coming first and generating a "surplus" of olives and feta that eventually led to construction of the Temple of Apollo.

As a final note on Delphi, it's worth mentioning that the first building visitor's go through when entering the precinct of the sanctuary of Apollo at Delphi is a large rectangular paved square. It's called the *Agora*, and surrounded by porticos that once housed open-air market stalls. The agora was the central public space in ancient Greek city-states. It was the marketplace – the quadrata. Just as when you tour the site today, in ancient times it was a case of "exit at the gift shop."

The Greek government pockets the revenue these days, and now you know where the Hellenic state (and all others) comes from. Once you are alerted to the pattern,

you can easily see it time and time again all over the ancient world.

In the famous archeological site at Delos, the original attraction was a sacred lake, which is left dry now and goes largely unnoticed. The island of Delos was ritually purified (i.e. ethnically cleansed of the local “pirate” population, or Childe’s “savages”) by Athens and Crete to make it fit for “proper worship of the gods” (i.e. turned into a money-spinner). The giveaway is that “purification” meant that no births or burials were permitted on the island, so that no one could claim the territory and its neutrality in commerce could be preserved!

Following the usual pattern, it too soon resembled a highly lucrative theme park. At Epidavros, or Epidaurus, the famous healing sanctuary dedicated to the god of medicine, Asclepius, owes its existence to a sacred grove (*alsos*).

> "The sacred grove of Asclepius is surrounded on all sides by boundary marks. No death or birth takes place within the enclosure and the same custom prevails also in the island of Delos. All the offerings, whether the offerer be one of the Epidaurians themselves or a stranger, are entirely consumed within the bounds. At Titane too, I know, there is the same rule."
>
> - Pausanias, *Description of Greece*

Cashing in on its reputation for healing, someone entrepreneurial in prehistory built an altar in the grove, which was always a good plan to garner a free meal. The area was then enclosed and temples were built. The whole enterprise soon mushroomed into a vast complex of for-profit healthcare and medicine run by guilds of doctors, and the therapeutic procedures turned into a production line of elaborate rituals.

The original “healing sleep” taken gratis in the forest became the ritual of the *incubatio*, or “temple sleep” attended by priests, followed by medical prescriptions, baths in the vast gymnasium, and “psychological healing” in the theatre complex. It was big business and highly lucrative. It was the first hospital and genesis of the outsized global healthcare industry of today. As usual it was “exit at the gift shop” (and still is today).

The general evolution of cities seems to consist of: a place that is naturally special or sacred because of local superstitious beliefs; the establishment of some kind of trade which takes advantage of the implied safety and neutrality of the site; followed by merchants, artisans, traders, priests, physicians, who take up permanent residence in order to cash in; which leads to transport routes and agriculture on the periphery in order to serve a population center, which soon grows too big to be supported by local foraging.

At some point a successful Scarface arises, who consolidates power using a violent militia and then “taxes” the whole operation based on the excuse of “protection”. Slavery then comes about because Scarface extends credit and favors that in some

cases cannot be repaid (by design). Those unfortunates then forfeit their bodies to chattel slavery and bondage and the population accepts it because their primate brains tell them that it's only fair and right that "everyone pays their debts". They buy into Lady Justice. Once the principle of slavery is accepted, then whenever there is a shortage of labor it becomes increasingly attractive to augment the laboring classes with slaves captured by raiding neighboring settlements. Once there's a full-time army, there's no end to the game short of global domination (followed by Malthusian collapse).

Note how the participants in all this are trapped on a treadmill. As the population grows, the consumption-emission footprint of the city grows with it. As natural resources surrounding the polis are depleted, indigenous free people who may prefer not to get embroiled in the civilization process increasingly find they have no choice, because the wild areas get consumed by the city, become formally enclosed, and can no longer support casual foraging. They find themselves in a position where they have to either migrate away from the populated area in search of virgin territory, or else they have to join in the melee, which means losing their autonomy (and a lot more besides). They are drawn into orbit around the growing *culture*.

The word "culture" itself means, "the tilling of land or act of preparing the earth for crops". It comes from the Latin *cultura* ("cultivating, agriculture"). The word "colony" also derives from this. The PIE root is "*kwel-" meaning, "revolve, move round; sojourn, dwell."

They are caught in orbit around Jacob's domus. Then they become slaves to domestication. They can no longer hear the voice of the saving grace, which whispers, "Move on! Move on!"

Not surprisingly, computer models show that stable, oppressive social hierarchies cannot readily arise if the members have the option of defection. Bureaucracies come with a heavy operational overhead and so mutually beneficial cooperation tails off quickly as the population grows. Most Progressives assume that urban clusters were inherently beneficial synergistic networks, but that's almost never the case if participation in them is voluntary.

The reason is that the benefits of the hierarchy are allocated unequally and accrue disproportionately at the top. As those at the apex get richer, the burden of carrying them in their metaphorical sedan chairs gets increasingly onerous for those at the bottom of the social beehive. The cost-benefit equation of the lower ranks participating in a hierarchical organization gets turned upside down. At that point the only way to keep the system stable is to reduce the participant's options for defection. I think the most likely explanation for why civilization began in the Fertile Crescent is not because it had rich agricultural potential, but because it's uniquely boxed in with hostile terrain.

The dirty secret at the heart of the civilization process is that it could only come about

because early domesticates in that region had drastically reduced options to defect from the system and move away. This is particularly true in Egypt along the Nile Valley and in the Delta. The sea cuts off escape to the North.

To the East and West lie hostile and inhospitable deserts, and to the South lie potentially hostile Nubian tribes. Although, according to myth, the Israelites managed to defect from the Egyptian system, they could only do so thanks to miracles and divine intervention. The point stands. How onerous a hierarchical system gets is in direct proportion to the lack of opportunities for escape.

In his popular book, *Sapiens*, Yuval Noah Harari calls this phenomena of social entrapment the "Luxury trap", as if it was some kind of hedonic treadmill, but I think he forgot his own plot for a moment and fell for the rosy old, optimistic, positivist view of civilization peddled by Progressives and Millenarians. He seems to forget that for most people there was no "luxury" at all. Modern estimates put early city's slave populations at around one third or more.

It's doubtful that "luxury" describes the lives of most women and children, laborers, artisans, prostitutes, junior priests and soldiers. Luxury only probably really kicked in with the tax collectors and the landholding oligarchs in the top 1% - and they weren't trapped, they were more than likely laughing all the way to the temple!
I think it's more appropriate to just call it the "Civilization trap".

The shiny baubles that Harari must be thinking about to bait and sweeten the trap only really came after the Industrial revolution. And as he points out, washing machines, dishwashers, microwaves, cars and phones are their own kind of trap – often debt traps.

However, there is evidently more than just one trap.

Internally, citizens are often trapped by laws that restrict their mobility, bind them with debt obligations, force them into conscription and keep them in servitude to landowners. It quickly becomes a society of a growing number of *fellaheen* in debt to an ever-dwindling number of *effendis*.

Externally, there is a "bright lights" syndrome that draws nomadic people into the city for sex (the "fleshpots"), entertainment, trade and the promise that the "streets are paved with gold". Psychologically this carrot-and-stick dynamic works at the level of the reptilian brain, but it needs to be orchestrated by a few individuals using their alien cortex to deliberately trap the rest.

Note that the Civilization trap is also a kind of snuff cult. It's inherently a deathtrap. The most insidious trap of all is an overreliance on a diet of starch – cheap, low grade, slave-fuel. While grain agriculture destroys vast tracts of the natural environment, causes soil erosion, salt-leeching, and depletes nutrients in the earth, it also causes the population to grow inexorably. A hunter-gatherer lifestyle naturally regulates the

size of the population and keeps it sustainable. With an increase in easy calories from starch, not to mention the demand for labor in the fields, fertility rates outpaced death rates (although both take off like a rocket).

What this meant was that very soon the population had no option but to remain in urban domestication, because the population just grew too large to sustain any other way. This problem has since mushroomed to its global limit. Anyone who mentions deindustrialization today is immediately assaulted by mammalian brains that say, “We can’t afford to deindustrialize because without the industrialized food system billions of people would starve and die!”

And yet we can’t afford not to deindustrialize either, because of excessive growth, population overshoot, resource drawdown, and human extinction. Early domestic populations found themselves in exactly this double bind on a local level. The only way out was to keep doubling down on a bad thing, causing a worst final outcome by trying to avoid dealing with an immediate unpleasantness

They, like us today, are caught in an escalation of commitment, like the Red Queen trying in vain to outrun a Malthusian catastrophe.

We are so deeply caught in the Civilization trap today that it looks like there is no way out. We are left clutching at straws, increasingly gambling on futuristic technology to save us. But we are up to our necks in tech now, and its ruining the quality of our lives and poisoning the natural world, so we are liable to go extinct waiting for a rabbit to pop out of the tech hat.

The actual source of the Civilization trap is the Brain slug on our heads. The alien cortex became the state and the state became Moloch.

The metropolis eats its own children. Yet when it started out it must have looked harmless enough. If trade was the genesis of civilization, then I think the evolution of the Burning Man festival offers a compelling contemporary example of what it must have been like in the early days.

Burning Man started out when a few friends got together on Baker Beach in San Francisco, just down from the Presidio, on the summer solstice in 1986. They built an 8-foot wooden effigy and ritually burned it in a bonfire. It became an annual event and attendance grew by word of mouth. Eventually it outgrew the beach and by 1998 it was being held on the playa in a temporary city erected in the Black Rock Desert of northwestern Nevada.

By then the "city" was made into a grid layout so that emergency vehicles could be directed to an "address" (i.e. it was made geometric for “safety reasons”). Cardinal roads were built into the desert to serve the “city”.

The Bureau of Land Management also got involved and started policing the event.

By 2010 the FBI goons were patrolling Burning Man using undercover agents to "aid in the prevention of terrorist activities and [perform] intelligence collection". Burning Man started out free, but by the time it moved to the playa tickets cost $65-$100 and there were about 15,000 participants.

By 2017, the main attraction, the wooden man, had grown to 32 meters. Tickets cost $425 and a vehicle pass was $80. About 70,000 people attended, all camped out in the desert. In 2020, the event was cancelled due to the global pandemic, but Fear-of-Missing-Out (FOMO) tickets were priced at $1,400! Burning Man spawned dozens of offshoots and became a franchise all around the globe. It's now a destination for multinational corporations, social media influencers, celebrities and the Silicon Valley elites.

Superficially Burning Man may not seem like a trading center, but anyone who's been there knows that the "gifting" economy hides a lot of trade in sex and drugs. So it serves as a model for how a daring Romeo and Juliet's liaisons out on the African plains could become ritualized and seasonal until they subsequently took off as popular festivals, or kind of prehistoric "swap meets", that people probably travelled long distances to attend.

Just like Burning Man, feasting and celebration of the solstices, and spring equinox festivals (like the Festival of Ishtar, since appropriated as Easter), must have been a good excuse for revels and trade at religious or sacred sites.. I think we should look to those as the origin of the first marketplaces, and hence cities, states, empires and civilization.

When I was in school it used to puzzle me to learn about kings and powerful rulers establishing cities seemingly willy-nilly. The Bible is full of so-and-so founded the city of such-and-such. Alexander the Great founded several cities, including the city of Alexandria, which was named after him. He died at age 32, so one wonders where he found the time. When Octavian won his famous victory over Anthony and Cleopatra at the Battle of Actium, he casually founded the city of Nicopolis and it soon became a major center and the capital of the province.

I wondered how one actually goes about "creating a city" and how historians could just so easily gloss over what seems like such a mammoth task – perhaps one that would have taken lifetimes to accomplish. How was it done? Did the king send out a few location scouts to report back on some favorable places to establish a city? Did engineers then check the ground was solid? Did the king then raise capital to build the city by offering shares or issuing bonds? Was the land purchased? Did town planners then lay out the streets and parks so that property realtors could sell parcels to eager speculators? Where did the residents come from? Did they have to be lured in with glossy brochures and overhyped sales pitches?

One of the earliest cities, Ur in Ancient Mesopotamia, is recorded as being laid out and planned by King Ur-Nammu, but for the most part cities grew organically and

haphazardly without a master plan.

Actually, it's fairly cheap and easy to "found a city" once you realize that they are simply trading squares with temples or treasuries attached. From Ur to Ephesus you can see the pattern. It's essentially just a prehistoric version of Burning Man or a local nightclub. Establishing a city requires little more than staking out a quadrata and declaring, "this is a free-trade area, protected by my soldiers." And then once the party gets going, the operation is taxed as much as the traffic will bear. Although Gordon Childe's upside down version of events is still taught in schools, scholars are beginning to know better. Part of the reason they are revising their opinions is because of the discovery of the world's first temple complex, Göbekli Tepe in southeastern Turkey.

Without a doubt, the ruins at Göbekli Tepe are the most astonishing find in the whole history of archeology. The incredible site has not really fully penetrated public awareness yet, largely because academics have been slow to disseminate information about it. They are still reeling from the shock of its discovery and are struggling to interpret what's been unearthed there so far. Only about 5% has been excavated and already the repercussions are tectonic in magnitude.

Recently academics have coyly tried to put a brave face on things and claim that the discovery of Göbekli Tepe does not "overthrow" the old picture of prehistory (i.e. Gordon Childe's surplus nonsense), it merely "fleshes it out" or "enhances our understanding". The truth is that its excavation has completely overturned the applecart and utterly blown Gordon Childe's theories out of the water, totally sweeping aside the established opinion of the last century or more on the origin of civilization. Dripping with understatement, Ian Hodder of Stanford University admitted, "Göbekli Tepe changes everything.

The late Klaus Schmidt's team started excavating in 1995. Since Göbekli Tepe is clearly a vast temple or religious site, without permanent settlements, which has now been dated as 11,600 years old, Schmidt put forward a new theory that, "First came the temple, then the city". Although gaining ground, Schmidt's theory is as far off the mark as Gordon Childe's, mainly because our understanding of temples is distorted.

The popular press is now off and running with the erroneous idea that "religion came first" because journalists fail to understand that temples are more correctly interpreted by our culture as "trading spaces" or "marketplaces" – shopping malls rather than religious centers or places of worship as we know them today.
Now that you've learned that "trade came first", in the next chapter we'll reinterpret Göbekli Tepe accordingly, and put it in its proper place, as the story of the alien cortex and the layered brain unfolds.

# **Chapter 4:** Göbekli Tepe and Currency

We are indoctrinated from birth to think of our culture and our civilization as wonderful and unquestionably good and to be proud of it to the point of even sacrificing our lives (and those of our children) to it without hesitation. In civilized society, to paint our culture in anything other than a positive light is blasphemy. You criticize our civilization, cult and culture at your peril.

Merely to label someone as “uncivilized” is to damn them. But the logic is circular, solipsistic and hermeneutically closed, because the Luddite and Philistine’s only real sin was that they were merely apostates or nonbelievers – they shunned or lacked the iron commitment we have to our prosperity (or immortality) cult.

If civilization leads inexorably to ecocide and extinction does it really have any so called “benefits”?

Most modern people (i.e. alien cortex dominated) assume that Civilization gives us the only correct and suitable yardstick to measure all things, including itself. It’s hardly surprising that in its own estimation it shines, but if we try to be objective for a moment, take a step back and regard ourselves as just another primate, then the Neolithic Revolution and the Industrial Revolution are highly aberrant behavior for a hominid, or any other primate for that matter. If zookeepers observed similar behavior in their chimps they would be rightly concerned. Are we too caught up in our own cult to see it for what it really is?

Human civilization is definitely an outlier in Earth’s history. In statistics, the rule is normally “regression towards the mean”, but the alien cortex thinks linearly, and so it simply extrapolates an anomalous trend forward when that’s statistically the most unlikely outcome of all. Ask someone, “If a couple of average height had 3 children 3 inches taller than them, and they each had 3 children 3 inches taller than that, how tall is the third generation likely to be?”

Almost everyone will answer “probably 3 inches taller than the previous generation”, but the actual correct answer is “average height” (and that’s born-out by actual population statistics). After two anomalous generations it’s highly unlikely the trend would continue. To believe otherwise would be to fall victim to the Gambler’s Fallacy.

Why should global GDP growth be any different? Is year-on-year GDP growth statistically dependent on previous history? If it’s statistically independent, what makes it so special that it defies natural law and keeps on growing forever, rather than regressing to our baseline, historical hunter-gatherer mean? “Human ingenuity” answers the alien cortex, narcissistically referring to itself as the ultimate game-changer.

Our new faith-based salvation religion is Science and Technology. But will they save us from ourselves (or our alien cortex)? Doomers, sensing that we might be at the limits of growth, might well ask what went wrong and why. Why did civilization happen to us? Can it really continue growing indefinitely or is it just a Jenga tower? Why are we now all slaves to the boss, the Lord, the System and the clock? Why aren't we all still living happily in egalitarian Eden – our average state for the last 3.4 million years? And will we ever return to Eden?

Clearly the anomaly is due to the arrival of the alien cortex, and we've traced how that may have come about, but I have a strong feeling that while acquiring an alien cortex put us at risk, it was not yet a fully-fledged pathology or fatal maladaptation that we couldn't recover from. Judging by most hunter-gatherer societies, which seem to exist stably, sustainably and in relatively low densities, Homo Mercator could have probably survived indefinitely as a nomad if its trading tendencies remained modest.

However, something went badly wrong in the Middle East after the Younger Dryas. Taken objectively, it looks very much like the spontaneous emergence of a fatal evolutionary disease of the brain. The temple complex (what I would call a "religio-trading complex") at Göbekli Tepe seems to be ground zero. But who was patient zero?

No one really knows who built Göbekli Tepe.However since its right at the spot where Cro-Magnon and Neanderthals first encountered each other and interbred (apparently in two separate waves), it's reasonable to blame the first hybrids.

What follows is highly speculative and would not really be taken seriously by any professional scholars, but this is the best I can do as a layman with very limited resources to piece together the next phase of the alien cortex's evolution.At least, the part of its development that led to the all-important Industrial Revolution – the point-of-no-return for the Civilization Trap we are in now.

The available evidence, and simple logic, points to Göbekli Tepe being built by the descendants of the mixed Neanderthal-Cro-Magnon people that encountered each other and interbred in the Levant, Anatolia and the Caucus region, starting 40,000 years ago. They were the Proto-Indo-Europeans (PIE) – the first modern White people as we know them today – and they became white through interbreeding with pale skinned Neanderthals.

At this point we may as well come clean and call a spade a White person. All joking aside, let's admit, along with all the people that have suffered from having to share this planet with them, that there's something fundamentally odd, if not totally mentally disturbed, about Caucasians.

And I say that as one myself. My suspicion is that interbreeding Neanderthals and Cro-Magnons was not a huge success. At least in the long run. In terms of

physiology it led to allergies, autoimmune diseases, and Type 2 diabetes. In terms of psychology, it gave rise to a kind of neurotic “divided self” with a heightened propensity for death anxiety.

The death anxiety led to an undue thirst for dominance and control, coupled with self-destructive tendencies, genocidal tendencies and an insatiable wanderlust that took Caucasians all over the world and eventually to the Moon. Yet the two halves trapped in the same schizophrenic head opposed each other and were mutually incompatible and often antagonistic towards each other.

The syndrome got worse over evolutionary time rather than better, and in modern times the Caucasian world shows all the signs of manic psychosis with bouts of obsession and euphoria quickly followed by nihilism and pessimism (as Louis Sass pointed out in *Madness And Modernism*). Starting at Göbekli Tepe, Caucasians invented human overcrowding, centralization and urbanization, which have led to an artificial environment that fosters, selectively breeds and rewards psychopaths.

I think what happened is that the worst traits of Neanderthals accidentally combined with the worst traits of Cro-Magnons leading to the dominant culture we know today. Raymond Dart’s famous “Killer Apes” are really just “Killer Caucasians.” If you doubt it, stick a pin in the ethnogeographic map starting with the genocide of the remaining Neanderthals by the new Neanderthal-Cro-Magnon hybrids.

Continue on through the racial cleansing of twenty-five or more other hominids from Europe. Then skip a few minor massacres and go on to the Hebrew annihilation of the Canaanites (not totally, they are still in Jordan!), Athens’ erasure of Melos, the Swiss genocides against Jews and Roma people, the Armenian genocide by the Turks, the Holodomor or Stalin’s genocide (Stalin was born in the Caucus), and, oh yes, let’s not forget that more recent genocide in Poland during World War II. Not exactly an exemplary rap sheet for an ethnic group.

Before anyone points out that infamous Asians like Genghis Khan and Mao Zedong also had a lot of blood on their hands, I would remind them that they were also Neanderthal-Cro-Magnon hybrids (plus a large dash of Denisovan).

My argument is that habitual genocidal behavior comes about in our species with the evolution of the alien cortex and becomes particularly acute when some of us crossbreed with the Neanderthals. I think that the recent genocides in Africa, such as the Rwandan genocide, Darfur genocide, or the Ugandan killing of Indians etc., are all caused either by back migrations of the Caucasian genome, or the vicious cultural dynamics associated with it, and is largely foreign to Africa (at least to any great degree).

Since Africa is the most genetically diverse continent by far, it’s unlikely that any ethnic groups were particularly genocidal (or at least not successfully so), otherwise they probably would have reduced ethnic diversity by attrition (as has happened in Europe

and Asia).

Species hybridization neatly (but embarrassingly) answers the question posed by Papua New Guinean rebel leader Yali, made famous by Jared Diamond in his scrupulously Politically Correct book of pseudo-ethnography called *Guns, Germs and Steel*.

> Yali radiated charisma and energy. His eyes flashed in a mesmerizing way. He talked confidently about himself, but he also asked lots of probing questions and listened intently. He had never been outside New Guinea and had not been educated beyond high school, but his curiosity was insatiable. First, he wanted to know about my work on New Guinea birds (including how much I got paid for it).
>
> I explained to him how different groups of birds had colonized New Guinea over the course of millions of years. He then asked how the ancestors of his own people had reached New Guinea over the last tens of thousands of years, and how white Europeans had colonized New Guinea within the last 200. With yet another penetrating glance, he asked me, "Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?" It was a simple question that went to the heart of life as Yali experienced it. Yet Yali's apparently simple question is a difficult one to answer. I didn't have an answer then. This book, written 25 years later, attempts to answer Yali.
> - Jared Diamond, *Guns, Germs, and Steel* (1997)

I think the reason it took Jared Diamond 25 years to come up with the answer is because that's how long it took him to concoct a suitably Politically Correct, innocuous and inoffensive explanation for why Europeans have hegemony all over the world; an answer that didn't involve the obvious argument from genetic "superiority."

Understandably he had his work cut out for him. In the end Diamond came up with a rather lame theory based on environmental determinism. Basically his idea is an ethnogeographic version of the Parable of the Seed and the Sower in the Synoptic Gospels.

Essentially: "You see Yali, some human genomes fell on stony ground with little soil, like Papua New Guinea, and they did not yield much cargo. Some fell on thorny ground like Arica, which kept them impoverished and did not allow them to grow, but some lucky ones fell on good soil. Those were the Europeans who were blessed to find themselves born on ground that had many plants and animals that were ripe for domestication."

Gaping holes in this theory include such mysteries as to why Yali's people, although supposedly all geniuses and much smarter than Europeans (according to Diamond),

waltzed through the Garden of Eden 60,000 years ago and bypassed all the wild pigs, goats, sheep, chickens, wheat, barley, etc. supposedly just begging to be domesticated, so that they could trek all the way to Oceania to subsist on a diet of cassava and other human beings. Jared's theory seems to assume a static human landscape without migrations until Europeans put Gordon Childe's "surplus" to work by investing in ocean-going exploratory vessels loaded with guns, germs and steel to cross the Atlantic and slaughter or enslave South Americans.

Obviously guns and steel are really the same thing, so it begs the question, "Why did Europeans, dim-witted as they were, invest so much effort in weapons and warships, when no one else did?"

Diamond almost seems to suggest that guns and steel fell from the sky into the lucky and emphatically *not* genetically or culturally superior European's hands, along with draft animals like horses, oxen and asses (which apparently adored domestication in a way that their wayward African cousins, such as zebra, didn't).

According to him, African animals are near impossible to tame (though it's not really clear then how people outside Africa successfully managed to domesticate African animals like the elephant, the buffalo, the boar, the goat, the camel, the guinea fowl, the cat, the dog etc.). Diamond seems to assume that the proof that native African fauna and flora can't be domesticated is that otherwise Africans would have done so (and then implicitly they, rather than White people, would presumably have been the first to walk on the Moon).

To stay politically correct, obviously he can't say that this counterfactual outcome had anything to do with the *mindset* of Africans. *Obviously* everyone ardently wants their people to be the first to walk on the Moon, so Diamond needs to find excuses as to why some ethnic groups only won Bronze medals, or none, in the race to modernity, without showing them any disrespect. The thought that the vast majority of ethnic groups couldn't see the point of Civilization is a Thought Crime so blasphemous it never occurs to him.

As to germs, those are obviously a non-issue because they are merely the prerogative of the invader and not an explanation for why people embark on and succeed in intercontinental invasions. Sure the European's diseases devastated South America ahead of their conquest, but had South Americans invaded Europe then the same would have happened the other way round. So bringing germs into the picture answers nothing at all.

The question still hangs in the air: *why do Europeans have such a strangely domineering, adventurous, acquisitive, narcissistic, cruel and warlike character? Why did White people invent the wheel and use it to ride roughshod over everyone else, rather than the other way round?*

Diamond jumped through hoops in order not to be offensive and spent a lot of time

and effort only to wind up explaining next to nothing, but his book has been popular because Left-leaning undergraduates and diehard liberals are prepared to clutch at any straw in order to hang on to their belief that Civilization is marvelous, while at the same time not insinuating any shortcomings in ethnic groups that didn't subscribe to it or were slow to adopt it.

If White people are just lucky, then no one need take offense. Since it was unearned, it goes without saying that the White flowers should share their good fortune with the other-colored daisies that weren't so fortunate.

> "Remember that you are an Englishman, and have consequently won first prize in the lottery of life."
>
> - Ruthless imperialist and White supremacist, Cecil John Rhodes

In bending over backwards to be *woke*, Diamond and his groupies demonstrate the Horseshoe Theory of politics, because they come almost full circle and reach the ultra-racist and paternalistic doctrine of "The White Man's burden." The Horseshoe Theory says that if one takes any position on the political spectrum to the ultimate extreme, it starts to have an uncanny resemblance to the politics on the other end of the political spectrum – hence the horseshoe metaphor where both ends tend towards each other.

The mantra of Diamond's acolytes is, "Humans are the same all over the world." Which is a kind of unintentionally odious racism and ethnic intolerance all of its own, though he and his followers don't seem to notice that. The uncomfortable facts have since shown that humans are very different, and some of them are so diverse they are even hybrids with other species. So we are far from "all the same."

Although you don't tend to hear it as much recently, a few years back the popular refrain in PC circles was, "race is a myth, because the genetic variation between the individuals in one racial group is greater than the average difference between so called races." Although well meaning, that's logically nonsense.That's like saying, "If you look at the genetic variation of individual horses with spiked horns on their heads, and individuals in groups of plain horses, there is more genetic variation within the so-called unicorn group and within the so-called horse group than there is in the average difference between unicorns and plain horses. Therefore unicorns are a myth. They are all just horses."

*Thanks, but I'm still going to call the ones with horns on their heads unicorns!* What next? "The difference in the blueprints of commercial eggbeaters and the difference in the blueprints of commercial helicopters is greater than the average difference between eggbeaters and helicopters generally available in the market.

Therefore you might as well use an eggbeater for a mountain rescue and you might

as well make your breakfast using a Sikorsky"?

Perhaps it's time for Liberal academics to save themselves some embarrassment and switch to a "vive la différence" stance rather than a "cancel diversity" strategy? Can we afford to be different without massacring each other because of it?

That surely depends on which particular ethnic groups are more prone to doing the massacres. Not every ethnic characteristic can be automatically beyond reproach just because do-gooders think stereotyping ethnic groups is contemptible and race is a myth. What some ethnic groups tend to do is flat out wrong, and in spite of the liberal agenda, we'd all be better off just calling it out rather than shaming people for stereotyping.

Let's face it; sweeping race issues under the rug and insisting everyone be nice isn't going to stop genocides. In fact its actually just fuelling frustration and a growing backlash against political correctness. Today the Right wing is feeding off anti-PC reactions.

Enough is enough.

In bending over backwards not to appear racist, progressives of Diamond's ilk seemed to have forgotten that theories of environmental determinism have been out of vogue ever since Adolf Hitler and the Nazis used them to explain the supremacy of the Nordic race based on a quasi-mystical fusion between "blood and soil." *What a tangled web we weave, when we practice to deceive!*

There's a far easier and more honest explanation to Yali's question. What Jared Diamond should have said straight away is, "Yali, the reason White people have all the cargo in the world is because we are *outright bastards*!"

If Yali had then asked, "But why are you such bastards?" then Jared should have answered, "It's because we are the outcome of a failed crossbreeding between Neanderthals and your people, Yali. Only you were lucky enough to have Denisovan genes and less Neanderthal than we got."

When Montezuma, almost paraphrasing Yali, asked Hernán Cortés why White people loved conquest and gold so much, he is supposed to have said, "We Spaniards have a sickness of the heart that only gold can cure."

I think the more accurate truth is that Caucasians have a sickness of the head, which only immortality could cure, and one of its worst symptoms is the genocidal pursuit of gold.

In the end, the story of "Killer Caucasians" is much the same as the "Killer Bees." In 1956, scientists wanted to increase the honey production of the European honeybees on commercial honey farms in South America. The European bees were docile but

didn't produce much honey, so the idea was to crossbreed them with African bees, which produced lots of honey but were aggressive and dangerous. That way they expected to get a docile bee that would produce lots of honey. You've probably already guessed the actual outcome!

A year later, twenty-six African queens, along with swarms of European worker bees, escaped from an experimental apiary about l00 miles south of São Paulo in Brazil. The freed African-European hybrids were highly aggressive and didn't produce much honey, but they tore through South and Central America and eventually reached Mexico, moving at about 100 to 200 miles per year.

The new bees rapidly eliminated existing honeybee populations through sheer aggression. In 1995 they infiltrated California and are now busy colonizing North America in a Hymenopteran imitation of White settlers 300 years before. The hybrid bee has since been dubbed the "Killer Bee" because it has viciously attacked and killed over 1,000 people since its introduction to South America. If only White settlers had been so restrained!

I think much the same thing happened when Cro-Magnons entered Europe and crossbred with Neanderthals. The crossbreed, with the worst traits of both species, subsequently wiped the many other hominids that existed in Europe at that time, along with the remaining purebred Cro-Magnons and Neanderthals in the area. The last purebred Neanderthal holdout went extinct in Gorham's Cave on Gibraltar, about 32,000 years ago. One can scarcely imagine the final thoughts in the Last Neanderthal's head as he or she watched the sun go down on their species for the last time, but they probably weren't fond reminiscences of their association with the Killer Caucasians!
The Killer Bee was bound to be aggressive and a poor honey producer, because the dominant traits of its two ancestors were aggression and low honey production, rather than docility and high production.

The scientists got the worst of both worlds, and the same probably happened with the Neanderthal-Cro-Magnon hybrid. But what were the dominant traits that Neanderthals and Cro-Magnons passed on to create the Killer Caucasian?

Rather conveniently for Political Correctness, since the hybrid wiped Neanderthals out and they no longer have a voice (up until recently some experts even claimed they were congenitally mute!), it's eminently socially acceptable to be prejudiced against them. In fact, there's still so much prejudice against Neanderthals that it's difficult to keep in mind that they were *actually smarter than us*.

The pejorative stereotype of the brutish, knuckle-dragging, hairy oaf with a heavy brow ridge still lingers from the time the first Neanderthal skull was discovered in the Neander Valley (German "Thal") in 1856. Up until Svante Pääbo's genomic work in 2011, the mere thought of such a smelly cave dweller crossbreeding with humans was abhorrent to most academics. But the truth is that on average Neanderthals

were stocky, slightly shorter but stronger, more robust and stood as erect as the people coming out of Africa. They certainly stood much more erect than the average modern person hunched over their phone screen today!

Scientists rate the intelligence of all animals based on their relative brain size, so one shouldn't make exceptions for Neanderthals just because we are prejudiced against them. Since Neanderthals had larger brains relative to body size than modern humans, we should just assume that they were smarter too. Scientists buttress their prejudice against Neanderthal intelligence by claiming that Neanderthals were not as creative as Cro-Magnons, as evidenced by the archeological record, which shows that they were "evolutionary failures" whose tool making skills remained largely unchanged for 100,000 years. I would claim that they were more intelligent than us for exactly the same reason.

> "For instance, on the planet Earth, man had always assumed that he was more intelligent than dolphins because he had achieved so much—the wheel, New York, wars and so on—whilst all the dolphins had ever done was muck about in the water having a good time. But conversely, the dolphins had always believed that they were far more intelligent than man—for precisely the same reasons."
>
> - Douglas Adams, *The Hitchhiker's Guide to the Galaxy* (1979)

Neanderthals lived successfully for 250,000 years or more in the harshest climates experienced by any primates. It took Homo Mercator 100,000 years before it could even fashion a tool with as much skill as the average Neanderthal for about 120,000 years. Once hybridized and equipped with decent tools, it took Homo Mercator less than 30,000 years to overpopulate and virtually destroy the whole planet with its much vaunted "creativity." In the intelligence stakes obviously Neanderthals win hands down, but our species lacks the brains to see it. That's known as the Dunning Kruger Effect.

Some scientists claim that Neanderthals were not even capable of symbolic thought, but that's evidently nonsense. In the early 1990's ancient stone circles were discovered 330 meters inside a cave in France.

The rings were made of about 400 stalagmites weighing a total of 2.2 tons and seemed to represent some kind of ritual setting. The structures were built a staggering 175,000 to 177,000 years ago. So when it comes to symbolic thought, it looks like Neanderthals were doing religious rites in Europe before anatomically modern humans were even out of the cradle in Africa.

As to their supposed lack of inventiveness, Neanderthals made the world's oldest known glue from birch bark. They used it to haft their flint spear points to wooden shafts 200,000 years ago. Many anthropologists date Homo sapiens as less than 200,000 years old and most credit our "behavioral modernity" (i.e. the arrival of the alien cortex) as starting no more than 100,000–70,000 years ago. So much for that

comparison!

Many claim that Caucasian's other-halves couldn't have been very smart because self-evidently they were "out-competed" in Europe by modern humans. I think they were probably "out-competed" the same way the Nazis "out-competed" the Jews in Europe during World War II. Does that make the Nazis more intelligent? Probably *less*, I would say.

Long before the Neanderthal genome was sequenced and found to be present in humans outside of sub-Saharan Africa, I had no doubt that Cro-Magnons and Neanderthals interbred because I worked as a software engineer. Like many others before me, I couldn't help but notice that managers in the field of software engineering tended to be male, taller, slimmer, had more melanin and were more socially skilled and less technical than the engineers that worked for them. The engineers tended to also be male, but stocky, pale, and geeky with a prevalence of ginger hair.

The cult classic movie *Office Space* follows the trope for both character types perfectly. As popular stereotypes go, at least in all the tech places I've worked, it looked like the Cro-Magnon bosses put the Neanderthal engineers to work. In my imagination I thought of Neanderthals as anti-social, troll-like beings with receding chins, halitosis and bad hygiene. They must have been boring, unambitious, pedantic and obsessed by things like bilateral symmetry, but had good technical and mathematical skills, and were compulsive collectors and hoarders. In *Office Space*, Milton, the Neanderthal stand in, just wants to be left alone and have people keep away from his now iconic, red, Swingline stapler.

Likewise, I think male Neanderthals were probably happiest closeted away in a man-cave tooling away at some dorky passion-project like an orange-haired Esau, Dionysus or Hephaestus – essentially your average software geek, electronics or mathematical whizz-kid, post-office clerk, bank teller, stamp collector, technocrat or Apparatchik.

On the other hand, the managers and executives I've encountered were generally taller, tanned, square-jawed with good dentistry, very goal-oriented, socially adept but ambitious, passive-aggressive and Machiavellian.

However, as I said, these Apollonian Jacobs were generally without a shred of technical ability or knowhow. Like economists, they just thought of tech as some kind of all-powerful, magical wizardry that the trolls did (if you forced them to).
It's been remarkable for me over the years to see managers, presumably acting out their inner Cro-Magnon biases, pointlessly trying to do team-building exercises, goal-setting and social events with engineers who didn't have a social bone in their whole body. They mostly just wanted the Cro-Magnon imposed agony to be over so they could go back to their solitary office cubicles to do more engineering. The managers never seemed to get it.

Before Svante Pääbo showed that Cro-Magnons and Neanderthals did actually interbreed, I was intrigued to read a back page fun-fiction piece in the prestigious journal *Nature* about exactly my observation in the modern tech workplace. The author had also noticed that the two species must have interbred, because in the average European laboratory one could clearly see Neanderthal technical staff with little or no ambition working for clueless but goal-obsessed, greedy, ambitious, target-oriented and narcissistic Cro-Magnon management.

The managers and senior executives always seem to be visionary, and generally try to rally the team for some far-off but often pointless and mildly insane, quixotic, pie-in-the-sky (PIE-in-the-sky?) initiative. I think that's the reason why White people did voyages of discovery and went into Space.

Although they had the innate ability to get there, I think that, left to themselves, the Neanderthals would never have built rockets and gone to the Moon because they just didn't see the point. On the other hand, Cro-Magnons would never have been able to muster the engineering skills to achieve Space travel (or even cross the Atlantic), but the motivation to go would be strong had they not lacked the requisite skills and technical ability. Put the two together and I think that's how humans got to the Moon. Neither species would have done it without the other – and the same goes for the rest of Civilization and the European conquest of the world. It's a Killer Bee thing.
It's possible that Cro-Magnons were goal-oriented because they had evolved to be single-minded savanna hunters. The people that left Africa were group-oriented team players who probably evolved to use the technique of "hunting to exhaustion" – essentially just wounding an animal and then tracking it for hours or even days, often at a running pace, until it could be caught and butchered. That kind of skill requires group coordination, vision and a rather obsessive, long-range focus – essentially team leadership and managerial skills.

By contrast, Neanderthals probably lived in small groups, spent the long winter months obsessing over their tools and crafts, and joined together in small groups to opportunistically hunt or trap large animals and megafauna, such as mammoths, at close quarters using brute force, without much planning or foresight. In a colder climate it probably paid to be a hoarder, but being a roving adventurer and risk taker were probably counterproductive to long term survival.

One can scarcely help noticing that the trolls living under bridges who accosted travelers in European folklore (not to mention asking them technical questions in the case of Monty Python's *Holy Grail*) may well be a folk-memory of long-extinct Neanderthals. It's possible that they, like trolls, may have even engaged in cannibalism too.

One assumes that kind of thing must have been abhorrent to the tribal and more primate-brained and socially oriented Cro-Magnons. But combine the two and one quickly sees how a misfit Killer Caucasian could emerge to dominate and destroy the globe. In my imagination I can easily see a race of White people that are

group-oriented, team-spirited, driven, focused, technical, obsessive, acquisitive, competitive, cruel, warlike and more than a little weird and schizoid. What could possibly be weirder than building rockets with atomic warheads and then replacing the bombs with human spam and fruitlessly blasting them off to the Moon in a near suicide mission? And yet that's what they did.

When I think of a Neanderthal-Cro-Magnon hybrid that's got a bit more Neanderthal than average I often have the mental image of Vincent Van Gough – the lonely ginger-headed artistic genius so conflicted by his split personality he eventually resorts to suicide.

But did Neanderthals do art?

In their bias against them, anthropologists hated the idea of Neanderthals doing cave art because they had previously claimed all creative skills as human. It's easy to forget that the Cro-Magnons that came out of Africa *didn't do art*. Apart from a few shells that may have been strung like jewelry and a chunk of ocher with a zigzag pattern on it, there is nothing one could call ancient art in Africa (although that has never stopped the PC crowd desperately trying to prove otherwise). So, as I mentioned in the previous chapter, politically sensitive as the topic is, art starts as an offshoot of the unstable psychology of the Neanderthal-Cro-Magnon hybrid. We need to get over ourselves and start seeing art in those terms (and stop doing PC apologetics full of contorted thinking, arabesques and back flips to redefine art in an ethnically sensitive way).

Art should be seen as an effort to reconcile a divided self; or at least it should be seen as a symptom of a split personality. Although our alien cortex likes to claim it for itself and glorify it, visual art is really an expression of mental distress (a dis-*ease* of the brain?). So sub-Saharan Africans shouldn't feel a sense of inferiority if they didn't exactly fill the Louvre with their prehistoric creativity. It's really just a sign of their superior mental health.

The oldest art discovered is in Europe is the spectacular Chauvet Cave in southeastern France. The murals in the Chauvet Cave even put Picasso to shame. They were painted around 30,000 to 32,000 years ago and mammoth-ivory figurines dating to around the same period have also been found in Germany. So, rather awkwardly for Jared Diamond, creativity starts in Europe with the Neanderthal-Cro-Magnon hybrid human and spreads throughout the world (which has actually turned out to be a disaster for the planet). And it happened long before anyone so much as domesticated a pig.

Naturally, the hotspot for the genesis of the Killer Caucasian is where the two species encountered one another for the first time, probably somewhere around present day Israel. Hardly surprisingly, it's been a trouble spot ever since. Incubation and diffusion of the eco-genocidal hybrid genes throughout Europe and Asia took about 20,000 years, and that has put us firmly on the road to the Sixth

Mass Extinction.

Historians generally agree that there was some kind of mysterious flashpoint in the Middle East that led to the complete transformation of the world over the span of about five to ten thousand years – the blink of an eye in our 3.4 million year-old history. What ignited that spark and why subsequent events unfolded the way they did is political dynamite, because one is forced to speculate on the origins (and hence merit and legitimacy) of a cult in the cult's own temple using the cult's own medium. If one wants to write a popular book, then it's best to bow to convention and just paint our dominant cult in a positive light. Popular cult cheerleader John F Kennedy showed the way when he said, "Our problems are man-made; therefore they may be solved by man. No problem of human destiny is beyond human beings." So because human ingenuity drove us off a proverbial cliff, does that mean human ingenuity can drive us back on again?
*Tell that to Thelma & Louise!*
It's all mammoth excrement, but unwritten cult rules dictate that when it comes to Civilization you have to play the optimistic card if you want to sell books or movies (or get elected president). Our cult runs on a feel-good sense of hope and optimism, so let me apologize for playing the unpopular pessimistic card. If one wants to shed light on the truth, like I do, then the cult comes off badly, and sadly there's not much of a market for that kind of counter-cultural *pox populi*. The reason is that, as Ernest Becker and others realized, the purpose of our cult is a wishful-thinking immortality project intended to permanently vanquish death and achieve everlasting life for all the cult members and their descendants.

Don't ask what that means in practice, because as many have observed, "immortality is a fate worse than death"! But it makes sense to "thought leaders" (i.e. Cro-Magnons).

Anyone who hasn't drunk the Kool-Aid can see our global industrial cult for what it really is – *a death cult that will achieve the exact opposite of what it intends.* When Heraclitus said, "everything becomes its opposite in the end", he may as well have been talking specifically about the alien cortex. I would like to try to inoculate you against its siren song. My mission is to warn anyone that will listen that history shows, that in its effort to escape death; the alien cortex usually causes it – often *en masse*. As Jean de La Fontaine said, "A person often meets his destiny on the road he took to avoid it".

Clearly, as I interpret it, Göbekli Tepe is a departure point for a failed attempt by the Killer Caucasians to collectively escape death. So it's a warning in microcosm about our global fate in the macrocosm.

> A merchant in Baghdad sends his servant to the marketplace for provisions. Soon afterwards, the servant comes home white and trembling and tells him that in the marketplace, he was jostled by a woman, whom he recognized as Death, who made a threatening gesture. Borrowing the merchant's horse, he

flees at great speed to Samarra, a distance of about 75 miles (125 km), where he believes Death will not find him.

The merchant then goes to the marketplace and finds Death, and asks why she made the threatening gesture to his servant. She replies, “That was not a threatening gesture, it was only a start of surprise. I was astonished to see him in Baghdad, for I have an appointment with him tonight in Samarra.”

- W. Somerset Maugham, *An Appointment in Samarra* (retelling of an ancient Mesopotamian tale)

The problem is disconnection. Seeing that we are all part of nature’s cycles, and those cycles necessitate death as a consequence of life, the alien cortex seeks to withdraw from nature and our older brain layers out of fear, because it perceives the older layers are more connected to nature and hence more prone to corruption. It sees them as alien.

The alien cortex tries to sanitize the world and rid it of putrefaction and decay, but in rejecting it our minds succumb to degenerative and destructive insanity as a consequence of their own phobia. We are seeing this unfold on a grand scale now. The global economy was always an attempt to cheat the regular cycles of nature and replace it as the prime producer (as a step towards immortality).

Just as we see the world on the brink of destroying the last vestiges of the natural cycles that all life depends on, instead of saying we have made a gargantuan mistake and should reverse course immediately, economists are telling us that productive economic growth and the natural world are merely becoming “decoupled”, so there is nothing to worry about. Rather than being in harmony with Mother Nature, GDP growth can continue indefinitely without harming her.

Therefore, logically speaking nothing can stop us from all becoming immortal now. Ludicrously optimistic Progressive authors like Steven Pinker and Michael Shellenberger tell us that we are leaving Mother Nature behind, and are now heading for the stars.

Except that it’s all a siren song. Divorcing ourselves from nature means cutting ourselves off from life (and the alien cortex is no substitute).
The alien cortex can see that staying on the metaphorical Spaceship Earth implies death, so in order to run away it enters the escape chute and exits the airlock. *Not a good move!*

The primary danger the alien cortex poses to us is that its attempted “exit to glory” (as the consequences of its past actions catch up with it) looks like something romantic, grand, glorious and even orgasmic. Not something bad at all. We get misty-eyed and all choked up with emotion when we see our rockets take off, never

once thinking how one day they are likely to come back down on us. The alien cortex's Rapture seems to promise clarity, meaning, certainty, and finality – everything the alien cortex really craves. Yet in a more sober light, it's just common-or-garden suicide and inglorious permanent extinction.

You can see this syndrome, almost resembling the symptoms of nitrogen narcosis, repeat itself in cases from Donald Crowhurst's ecstatic personal jump overboard at sea to the rapturous mass suicides of the Heaven's Gate cult and the ritual suicides of the Peoples Temple in Jonestown. And you can see it unfolding at a frightening scale to the whole industrialized world as the path first taken at Göbekli Tepe reaches its endgame.

It's very hard to extricate yourself from a death cult. The pattern of failure usually goes something like this. A charismatic leader (such as Elon Musk or David Koresh) or a couple with "folie à deux" (madness shared by two people, like *Doh* and *Ti* in the Heaven's Gate suicide cult) correctly perceives that the larger cult (the global culture) is on the road to self-destruction.

So they form a splinter cult in order to decouple and "save humanity" (or save a select elite of the worthy or farsighted few). Since the new cult is merely another reformation of an alien cortex collective, it inevitably engineers itself into a thicket of problems that resemble a microcosm of all the problems the breakaway members were originally trying to escape from in the first place.

Trapped on a ledge by a fire of its own making, the alien cortex loses hope and then projects its failure back onto the whole world, concluding in effect, "Everything is EVIL – life is an impossible scheme." Then it jumps, while confabulating some story that absolves itself from all wrongdoing and simultaneously delivers itself psychotically to some mythical "Greater Glory" or "Ultimate Perfection" while mentally condemning the world it leaves behind to absolute damnation.

Hopefully you noticed that the prime example of this dangerous alien cortex syndrome is the psychotic figure that comes down to us through the myth of Jesus Christ. In this respect, our whole modern industrial culture and economy, no matter what the sect or religious persuasion, is following the Christian Passion or suicide cult model. Clearly, we will all soon be crucified on the cross of the global military scientific-industrial complex that makes us so giddy with ecstasy.

And we will meet our fate on the very road we took to avoid it.

Death anxiety, followed by decoupling, followed by a failed escape, followed by self loathing and suicide comes part-and-parcel with the individual and the collective alien cortex. Let's call the syndrome the *Nibelungen Ring* in honor of Wagner's Ring Cycle (inevitably ending in the *Götterdämmerung* or Twilight of the Gods – and their extinction). Or perhaps you may prefer calling it the *Ring of Sauron* (if Tolkein has more of a ring for you).

Alien cortexes with a strong sense of mission also tend to have a correspondingly strong sense of martyrdom. Freud's Eros (will for life) can flip into Thanatos (death wish) very quickly. That's what the "The horror! The horror!" of Kurtz is really all about in Joseph Conrad's *Heart of Darkness*. Civilization begets its shadow. What usually saved us from this kind of self-destructive behavior in hunter-gatherer societies of the past were the healing arts of the shamans. People who had personally been through this cycle and survived it had the knowledge to guide others, even whole societies, safely through the experience.

However at Göbekli Tepe something seems to have gone terribly wrong. The shamans seem barely to be in control, and after Göbekli Tepe they seem to lose control entirely. The state sweeps them completely aside and paid physicians and priests subsume their traditional skills.

My guess is that fake imposters usurped the traditional role of the shamans. Let's call these imposters the first religious priests and priestesses, because they are still with us today fulfilling the same roles for probably the same motives. Profits superseded prophets. At Göbekli Tepe, it looks like "immortality" was marketed for the first time on an almost industrial scale.

Göbekli Tepe appears to be organized much like a massive theme park. The many circular galleries resemble Disneyland or some kind of latter-day country fair, only a darker version. Much of the imagery carved into the stone walls is of violence, birth, death and possibly sex.

One of the enclosures appears to be a snake-themed room (complete with a slipshod House of Horrors type of snake's head jutting out of a wall). Archeologists struggle to interpret what's going on, but I'm sure P.T. Barnum would have no trouble explaining it to them.

There's a Lion Pillar Building with leaping lion motifs, a Snake Pillar Building (Enclosure A) containing five T-shaped megaliths with intricate patterns of snakes etc. One can easily imagine a religious cult where initiates were only admitted to the rites in a particular room after achieving a certain rank, much like the degrees of Freemasonry and the Roman Mithraic Tauroctony (the ritual sacrifice of a bull to the Great Mother of the Gods, Cybele – the Magna Mater). In fact, the imagery found at Göbekli Tepe in some respects resembles the central stone cult reliefs in a Mithraeum (a Mithraic temple from Roman classical antiquity erected by the worshippers of Mithras where they performed their Tauroctony in secret).

The motifs in a Mithraeum probably represent asterisms and signs of the zodiac. Since they can almost be mapped one for one with similar sigils at Göbekli Tepe (especially with the important Pillar 43, popularly called the "Vulture Stone", in Enclosure D), one naturally assumes that the carvings at Göbekli Tepe represent ancient asterisms in the night sky.

There is likely a direct link between the cults at Göbekli Tepe and later esoteric belief systems such as the Mithraic cults, the Eleusinian Mystery cults, and the cult of Cybele, since they seem to echo the same recurring mythology, particularly surrounding the snake, the lion and the bull. Since the image of the snake is ubiquitous at the site, and since the snake is generally recognized as associated with supernatural rebirth and transformation (because it sheds its skin), it's likely that religious rites of death and resurrection were being practiced there. What they were probably selling was an escape from death to any alien cortex gullible enough to believe that immortality in an afterlife could be unlocked using mere rituals. Although the rites may have been holy, they probably were anything but wholesome.

For example, the Snake Pillar enclosure includes an apse and what appears to be a stone altar. There is a similar setup in a contemporary temple nearby, at Çayönü Tepesi in a cult structure that's now called the *Skull Building*. Excavators uncovered human skulls and the disarticulated bones of at least 450 individuals there. On the polished altar table they found traces of blood from aurochs (extinct wild bulls) mixed with human blood. A large, business-like flint knife next to the stone slab hinted at dark practices.

Being baptized in bull's blood was a part of many ancient rites of fertility and rebirth. The sacrifice and bath of blood in the taurobolium represents the emergence and restoration of Attis (a Christ-like figure who castrated himself to escape the attraction of Cybele).

Evidence is emerging of how the people who built Göbekli Tepe treated their dead. Anthropologists have discovered what the anthropological literature calls a "Skull Cult" active there based on human skulls found at the site showing evidence of being modified. Deep incisions and perforations have been drilled in skull bones post mortem.

The way I interpret this is that they were probably enacting a ceremony much like the funerary rites performed later by Egyptians and described in the Pyramid Texts. The highlight of the Ancient Egyptian rites was the "opening of the mouth ceremony" in which the soul was released from the corpse so that it could continue its journey to the afterlife up in the stars.

Evidence of trepanation (drilling holes) in skulls at Göbekli Tepe might have been their version of "releasing the soul" (or alien cortex) so that it could supposedly ascend into the sky. The ascension was not done in half measures. The evidence suggests that they were doing "sky burials", where carrion birds, in particular vultures, pecked away at the dead person's head, presumably then whisking them (or their brain tissue) away for ascension up into a portal in the heavens that led to the realm of the afterlife. How else did these people imagine that they could reach the pole star, or doorway to Heaven, way up in the sky, without the help of birds for transport? At least that must

have made a compelling story for the attendant priests and priestesses to tell to their over-imaginative clients.

Sky burials, although rather grizzly to us modern domesticates, are still practiced in some isolated Tibetan Buddhist communities in the Himalayas. We can be almost certain that something similar was going on at Göbekli Tepe because there's a mural that depicts the practice in detail at the archeological site of Çatalhöyük, which is nearby.

A reconstructed panel dating from about 7,700-9,500 years ago shows two mortuary towers where vultures are being offered a human head on one and a headless torso on the other. The vultures are depicted like X-ray images showing the human remains ready for ascension inside their stomachs, much like astronauts in a space capsule ready for launch.

At Göbekli Tepe, Pillar 43 (The "Vulture Stone") shows a headless, ithyphallic man riding up to heaven on the back of a vulture (rather than inside). Above the figure is a vulture that seems to have a ball at the tip of its wing, almost as if its playing basketball.

The late Klaus Schmidt, who was the chief excavator, thought that the ball represented a human head. What's more likely is author and Göbekli Tepe enthusiast, Andrew Collin's theory, that the ball represents a *seelenloch* (one-way "soul hole", mystic portal or "star gate" to the afterlife) through which the deceased was supposed to pass in order to complete their journey – a kind of cervix or birth canal for a second birth after death.It must have been a much more appealing thought for people with death anxiety to imagine their death as a kind of rebirth and a new beginning rather than a complete end and total cessation of their existence.

Seelenlochs are common at Göbekli Tepe. There is even a mural with a seelenloch placed as a female figure's vulva, which supports Andrew Collin's theory. The imagery seems to suggest a religious belief system that goes something like the following.

The immortal Magna Mater or Supreme Goddess of Nature (who would later be known as Cybele in the near East and Kali in Southeast Asia) supposedly gave birth to a primordial Adam and Eve. Your own mother would be a descendant of the first mortal woman and she gave birth to you by acting as a proxy representative for the Original Mother of All. That's the way I interpret the amazing stone "Totem Pole" statue discovered at the site in 2009. It resembles a shrine and was discovered in an apse in a rectangular room apparently made for worship.

The Totem Pole depicts a feline or bear, probably representing the Mother Goddess, embracing a woman from behind as she gives birth (presumably to us, or *Everyman*). As depicted, Cybele is obviously metaphorically acting as the midwife (and mother) for our mortal mothers as they (our universal mortal mother and divine immortal

grandmother) give birth to each of us.

The little newborn human figure, our symbolic reprehensive as we emerge from the womb, is holding something in outstretched hands that is hard to identify. Some people have interpreted it as a human head, but I think it's actually a basket with a snake in it. As such it's a *cista mystica* (secret casket) that was later said to contain the head of Osiris in the resurrection ceremonies of Isis in Ancient Egypt (Isis being their version of Cybele). Later still, it was a theme used in the Bacchic, Dionysian and Eleusinian mystery cults. I'll go into details in the next chapter, but for now, just think of the basket as a symbolic kind of a seelenloch (or mystical, artificial womb substitute and spiritual birth canal).

The Totem Pole essentially represents a sequence of natural, mythical and ritual births. Which seems to suggest a belief that after being born to an earthly mother through her physical vulva, we are delivered into Cybele's tangible cosmic womb (the world), and from there our death is really just a second metaphysical birth out of the cosmic womb into the dazzling, bright light in the realm of the afterlife (above the terrestrial dome or "outside" her enveloping belly, represented by the firmament).

Our culture preserves this myth to this day as the Grim Reaper or Spirit Guide taking us up into the sky and through a long tunnel with the Light of Heaven at the end (as parodied by Monty Python in *The Meaning of Life*).

The key insight to unlock the belief system of the people that built the first temple is to imagine how the ancients probably thought of the cosmos. Whereas we tend to look up at the night sky and think of it as an infinite and endless expanse, I think the people who built Göbekli Tepe thought of it more like a tangible roof, dome or upside down bowl just overhead (or basket, given that we are talking about the Pre Pottery Neolithic era).

Not too far overhead either.

They thought that large birds like eagles; cranes and vultures (acting as Grim Reaper or psychopomp) could reach our celestial ceiling with relative ease, even satiated after a satisfying sky burial lunch.

This idea of a firmament carries forward to the Hebrew cosmology described in the Book of Genesis, where the sky was conceived to be a solid dome overhead, with the Sun, the Moon and the stars embedded in it. The stars in the night sky were often considered to be holes in the dome, letting through pinpricks of light from the brightness of Heaven, the eternally shining realm of the afterlife above. The most important "hole" in the sky was the pole star. That represented the ultimate seelenloch – the prime portal and main exit to the hereafter.

The firmament, bowl or basket was of course considered to be our Cosmic Mother's belly – Cybele's giant womb.

Therefore, our earthly lives were believed to merely be a terrestrial gestation, and temporary incubation period, until we were ready to be delivered out of Cybele's vulva (the pole star) into the Heavens to live out our *real* lives for eternity. Although pure fiction, one can scarcely imagine a belief system that's a better anxiolytic for a people beset with death anxiety. *Who said Neanderthals weren't creative?*

By the way, in case you are thinking that the pole star was Polaris, at the time Göbekli Tepe was in use it was actually the star Deneb, which is the "head of the swan" in the asterism produced by the Cygnus ("swan") constellation. Due to celestial procession of the Earth (a slight wobble of the rotational axis which causes the pole star to shift in a cycle of approximately 25,772 years) the pole star has since changed from Deneb to Polaris.

In ancient times the constellation Cygnus was associated with a vulture rather than a swan. Professor Vachagan Vahradyan of the Russian-Armenian University noted the connection with the Vulture Stone in Enclosure D. The vulture with the ball at the tip of its outstretched wing actually represents the constellation Cygnus.

As Andrew Collins and others have figured out, Deneb is special not only because it is the pivot point of the celestial dome, but also because it sits at the apex of what's known as the "Dark Rift" in the Milky Way. According to ancient Egyptian mythology, Nut, goddess of the sky and the mother of Osiris, was a personification of the Milky Way. She is depicted as such, her thin body arching over the world, on the inside of sarcophagi and on the vaults of tombs.

Clearly, in prehistoric times the Milky Way was considered to be a reflection of the Earth Mother's body up in the sky. As such, the Dark Rift is the gap between her legs and Deneb is at the exact spot of her vulva (or perhaps cervix) – perfectly anatomically positioned as a birth canal to the afterlife. So the star Deneb should be understood to be the light at the end of a tunnel, and that tunnel is our (second) birth canal out of the Cosmic Womb to eternity.

A central seelenloch stone that is made to represent a vulva (complete with female figure and splayed legs) is a transit that probably would have lined up exactly with Deneb, almost as if it were a gun sight used to aim and fire off souls to the Never Never. In a way it's almost like a kind of funerary launch pad. The later Egyptian pyramids at Giza were probably the same. The so-called "star shafts" cut in them appear to be seelenlochs, possibly pointing at Sirius, Orion and elsewhere (though this idea is heavily contested, of course).

The general picture that emerges is one of a greatly psychological disturbed population becoming morbidly obsessed with death and suffering immortality anxiety on a grand scale. The whole temple complex can be thought of as an early giant religious version of Cape Canaveral Space Center, or Baikonur Cosmodrome, with relative economic costs to match. This was where the ancients launched souls to

the stars just as we now launch astronauts and cosmonauts in a similarly nonsensical dead end religion based on much the same superstitious beliefs in a mythical “destiny in the stars” (and corresponding Elon Musk-like insecurities about our mortality).

The insanity has only grown with time and the costs have increased exponentially. A simplified mural found in a house at Çatalhöyük rams the Totem Pole narrative home. In Çatalhöyük a similar leopard or bear-headed woman gives birth to a bull calf. Often represented as a lioness or bear, Cybele was traditionally associated with female felines. She, and her later incarnation as the goddess Sekhmet in Ancient Egypt (the psychopomp of the pharaohs) is often represented as riding in a chariot drawn by lionesses.

According to legend, her final punishment for Attis trying to permanently divorce himself from her by self-castration (what modern economists call “decoupling”) was to set her lionesses on him. That’s a bear worth bearing in mind when modern millenarians effuse about “decoupling” GDP growth from the biosphere (i.e. divorcing ourselves from Cybele’s cosmic womb).Metaphorically speaking, I expect she’s going to set her wild cats on us too in revenge for trying divorce ourselves from her.

The oldest known object of figurative art is an ivory figurine called the *Lion-man of Hohlenstein-Stadel* (*Löwenmensch* in German). It was found in a cave in Germany in 1939 and is dated to between 35,000 and 40,000 years old (just when Neanderthals and Cro-Magnons were starting to interbreed). Although it’s often called the Lion man, it’s actually female.

The reason for the mistake is that one of the earlier restorers had a fragment they couldn’t quite place. Presumably it was on a Friday afternoon just before quitting time, because they took the liberty of just gluing it on haphazardly as a penis. The error has since been corrected, but the name still stuck. Since it is lioness sculpted in the astrological Age of Leo (when the vernal equinox point was in the constellation Leo, 39,100 to 36,900 years ago) it’s tempting to say that it represents Cybele.

The next Age of Leo is commonly interpreted to be between 12,500 and 10,000 years ago – the time of Göbekli Tepe’s heyday. The constellation of Leo traditionally represents a crouching lioness and Göbekli Tepe is full of crouching lioness motifs. There’s little room for doubt that at least part of the complex is dedicated to a version of Cybele, the fertile Mother Goddess and her lionesses.

An interesting baked clay statuette of a nude female figure was found in Çatalhöyük. The corpulent figure is seated on a chair while giving birth. The chair has feline headed arm rests, so there is no doubt that it represents Cybele. Other similar motifs were found at the site and they are all associated with prehistoric goddess figures, or “Venus figurines”, found all over Europe. The most famous of these is the Venus of Willendorf in Austria from about 32,000 years ago.

Now that Göbekli Tepe has overturned long-held orthodox opinions, archeologists

on the fringe have suggested that perhaps the Great Sphinx of Giza was also originally a leonine figure that might have been contemporaneous with Göbekli Tepe.

It is certainly perfectly aligned astronomically for the last Age of Leo.However the orthodox consensus is that it only dates back to Old Kingdom during the reign of the pharaoh Khafre (4,558–4532 years ago). To say otherwise is enough to make the world's foremost Egyptologist have a temper tantrum in public and angrily rage-quit and storm out of a presentation (unfortunately, captured in a video posted on YouTube).

While the connection to the near-universal Mother Goddess of pre-religious shamanic times is obvious at Göbekli Tepe, the reason why the temple was situated in that exact location is still an open question.

Playing the game of "Guess what the original attraction to the holy site was", one is forced to conclude that Göbekli Tepe was once considered to be an omphalos or the base of an *axis mundi*, world pillar, or "stairway to heaven" (much like in *Jack and the Beanstalk*). The opposite end of the imaginary axial "pole" was the pole star Deneb. I imagine that the builders chose that site because they thought the Tell (or hillock) it was built on was considered to be the center of the world (i.e. it's navel). Göbekli Tepe literally means "potbelly hill" (or "mound").

A Sumerian creation myth called *Debate Between Sheep and Grain* places the birth of civilization at "the hill of heaven and earth." The story says that it is "not a poetical name for the earth, but the dwelling place of the gods, situated at the point where the heavens rest upon the earth. It is there that mankind had their first habitat, and there the Babylonian Garden of Eden is to be placed."

The Ancient Greek site of Delphi took over as the "center of the world" later when the center of social and cultural gravity in the classical world shifted west, but it's basically a direct commercial rip-off of the Turkish site (minus sky burials etc.). I suspect that long before the temple complex was constructed at Göbekli Tepe, the location was already considered sacred. Many have speculated that the Garden of Eden as described in the Biblical Genesis could be this very site, since many of the indicators (especially the four rivers) seem to fit.

Although they are almost impossible to date, there are mysterious cuplike holes carved into exposed bedrock to the southwest of the main enclosures. Clusters of these incised holes (looking much like Swiss cheese) are found at other Pre-Pottery Neolithic sites all across the region.

Because they are carved into elevated positions one assumes that they have some function in the sky burials. Since there are so many of them, the most obvious conclusion is that they were laboriously carved individually and used on a once-only basis for each burial.

The most reasonable explanation seems to be that they held the pre-prepared (decapitated and de fleshed to attract birds) head of the newly deceased when they were offered to the vultures. The dimples' purpose was to stop the heads rolling away while the birds fed on them!

If so, that explains why the cups or indentations are also carved onto the tops of the tall T-shaped standing monoliths in the enclosures. As the rituals got more sophisticated, the burial platforms probably moved from natural rock outcrops in high places to artificial elevated ceremonial altars.

Much later they moved to taller wooden towers depicted in the murals at Çatalhöyük. If this supposition is correct, then it gives us our first clue as to who built Göbekli Tepe. They might have been early Zoroastrians (though orthodox historians might choke at that suggestion, because they assume Zoroastrianism only comes on the scene about four thousand years ago).

Zoroastrianism is one of the oldest continuously practiced religions. It was the state religion in the Ancient Iranian empires for a thousand years and thrived in Iran, Armenia, and India. The Zoroastrians had a *dakhma*, also known as the Tower of Silence, which was a raised circular structure very similar to the enclosures at Göbekli Tepe. They were used for excarnation (i.e. sky burials where dead bodies were exposed to carrion birds, usually vultures). The people who built Göbekli Tepe must surely be proto-Indo-Europeans. When they move east much later they call themselves "Aryans." I have no doubt they are the Killer Caucasians.

In the Zoroastrian cosmogony, *Mashya* and *Mashyana* were the first mortals, created by the immortal deity *Ahura Mazda* ("Lord of Wisdom"), giving rise to the human race. Their story has come down to us as the myth of Adam and Eve. Since the central figures in Enclosure D are a male and female pair, I imagine that they represent some kind of original Adam and Eve, or Mashya and Mashyana. Since all the anthropomorphic T-shape pillars are headless, but have the cups or dimples carved into the top of them, it seems obvious that the decapitated heads of the deceased were meant to top the "T" to complete the stone torso. As such, the funerary rite would likely be a re-enactment of the original death and resurrection of the primordial couple represented in stone in Enclosure D.

When a person died, assuming they were given the correct burial rites, then the belief must have been that they would be given a second birth into an eternal life. If this rebirth and resurrection involved being carried up into the heavens and out of a collective cosmic "birth canal" or hole in the sky by carrion birds that acted as psychopomps or spirit guides, is it too much of a stretch to assume that the myth we have of the stork "bringing the baby" is a distant echo of the folk memory of the religion at Göbekli Tepe?

Psychologically speaking, the whole site at Göbekli Tepe reeks of a collective

neurosis. The people who built it clearly have a uniquely unhealthy obsession with birth and mortality. Though generally not interpreted that way (obviously to uphold optimistic Whiggish and Progressivist narratives about Civilization and its benefits), the whole effort expended to build the temple seems to be the expression of a loud and long-lasting, collective existential crisis.

One naturally assumes that the people who built Göbekli Tepe also later built Çatalhöyük, and there they also seem to exhibit a similar psychological stress. Çatalhöyük is not only a village, but also a strange mixture between a necropolis and a human settlement. The people's houses were geometric, obsessively clean and routinely whitewashed, which hints that their alien cortex is making a determined effort to sterilize and distance itself from Nature.

The inhabitants seem unable to part with their deceased relatives or find psychological closure after their deaths. Apparently unable to part with them, they buried people under the floors of their houses. Up to sixty corpses might be found in a single house.

After being buried for some time (perhaps a year), bodies were often re-exhumed to have their heads removed. The bodies were reburied, but the skulls were kept and fetishized for a long period of time. They were sometimes painted and their facial features were often restored with clay in a way that's eerily reminiscent of the Norman Bates character in Alfred Hitchock's movie, *Psycho,* who can't separate from his dead mother and keeps her in the house, mummified and stuffed. The skulls were circulated and after what appears to be an unnaturally long period of grieving, they were then reinterred (sometimes as symbolic totems under the pillars of the house). In one case a decorated skull was found poignantly reburied, embraced in the arms of a female skeleton in a fetal position.

Social ties must have been extraordinarily close-knit at Çatalhöyük, but they were not blood ties. The homes that ate together, buried their dead together. However they are not extended nuclear families, but rather the result of a cultural practice whereby all the children were distributed to foster parents around the village.

It's evident that at Çatalhöyük they have not only become unnaturally obsessed with death, but also with the dangerous aspects of wild beasts. They loved to collect the horns, teeth and tusks of vicious animals and embed them as trophies in their walls. There are also murals of Semitic looking men with beards engaged in bull baiting (cattle were all wild, dangerous and yet to be domesticated). The idea seems to be that they are tweaking the nose of Death, so to speak.

The theme is echoed in the Bull-Leaping Fresco in the palace at Knossos in Crete, which was painted by the Minoans (who, I believe, were descendants of the Çatalhöyük people). Modern bullfights in Spain and Portugal might also be a distant cultural connection to these ancient rituals.

So without a doubt, the Killer Caucasian had extreme death anxiety. As the Terror Management Theorists realized, this becomes the engine that drives the advent of Civilization.

The great monuments and the cities to come are collective immortality or death-denying projects. But inevitably the palliative becomes the poison in the end. I interpret the many temples found all around Göbekli Tepe, like Çayönü Tepesi, as spin-off operations of the Skull Cult that was centered there. Just like how the Burning Man franchise spawned Critical Massive, Coachella, AfrikaBurn and literally dozens of other annual events. After Göbekli Tepe one can see the next big spinoff organized on the same principles at Jericho (often called the “first city”), and then the mother of all spinoffs at Nippur, the oldest city and religious center in Mesopotamia right at the dawn of recorded history.

At Nippur the mound, or *Tell,* of Göbekli Tepe (the *omphalos*) was replaced by an artificial ziggurat with a raised platform. There, Enlil, one of the supreme deities of the Mesopotamian pantheon was supposed to reside in a "Mountain House" attended by elite priests. They were also part of a state-run protection racket, in the business of selling “immortality.”

*You just can’t keep a good thing down!*

Just like at Delphi and the snake cult of Asclepius at Epidavros in Greece, and earlier pilgrimage sites in Egypt and Mesopotamia, it must have been a case of “exit at the gift shop.”

Remarkably, Andrew Collins claimed that he (or perhaps a museum visitor called Mathew Smith) actually identified one of the prehistoric souvenirs, now currently on display nearby in the archaeological museum at Şanlıurfa. Collins billed it as the “First Pictorial Representation of Gobekli Tepe Found.”

The object is a piece of carved bone about the size and thickness of a fridge magnet, and it clearly shows the main attractions – the two giant male and female anthropomorphic megaliths in Enclosure D, the seelenloch and a stick-figure visitor (hopefully a native of this planet, and not a visitor using the stargate in reverse!). The object is almost laughably similar to items on offer at the Göbekli Tepe gift shop today.

The only difference was back in the Late Neolithic period the souvenirs were manufactured locally in Turkey, whereas today they are probably manufactured in China. Other than that things haven’t changed much in 11,000 years.

The tourist catchment area is bigger and the supply chain longer, but other than that Göbekli Tepe is back up and running today in much the same business it was in back when it was first built. I would even hesitate to say it’s under new management. If the political turmoil just across the Turkish border in Syria ever stabilizes, I imagine that tourists will start flocking to Göbekli Tepe like it's the Vatican.

Somehow I don't think the Vatican is too concerned that its first ancestor has returned from the grave to compete with it commercially. I'm sure the Pope knows that the nearly insatiable market for immortality-at-a-price is easily big enough to support both rackets – his and the Turkish government's.

But how can we be sure that Göbekli Tepe was a commercial operation?

Mainstream archeologists wouldn't recognize it as a for-profit commercial enterprise because they are wearing blinders when it comes to what constitutes currency. Let me help remove the blinders.

In economics classes all over the world they still peddle the standard myth about the invention of currency that was invented by the patron saint of Economics, Adam Smith (no doubt the cult priests at Göbekli Tepe were his kindred spirits, if not his direct ideological progenitor).

Without a shred of evidence to back up his assertion, Smith said that quid-pro-quo bartering exchange systems preceded economies based on currency and superseded them because they were effectively unworkable. The redeeming invention of currency supposedly enabled the invention of credit, and credit did nothing but good for the world because it became the engine of growth and prosperity that is the foundation of our near-universal immortality cult. "Credit", just so you know, is another word for "venture capital", and venture capital is a euphemism for "debt", and debt is a euphemism for "personal bondage." Which is really the issue at stake here, but let's come back to that later.

Once upon a time, according to Smith's fable, the butcher, the brewer and the baker were in mutual deadlock, and there was darkness upon the land, because they could not conduct commerce. If the butcher had enough bread and wanted some beer in exchange for meat, but the brewer had enough meat and only needed some bread in exchange for beer, and the baker needed meat in exchange for his bread but didn't want any beer, then Smith said they were all basically screwed (or in his exact words, their commerce was "very much clogged and embarrassed in its operations").

Luckily, the goblins at Gringotts Wizarding Bank in London came to the rescue with the invention of currency. Then there was great rejoicing around the newly freed markets, because suddenly the butcher could buy barrels and barrels of beer for ten-and-six without so much as a "how's yer father?" And the brewer could get bread for a tuppence from the baker no matter if the baker was teetotal or a drunken sot who could never get enough beer.

There was a sudden boom in immediate gratification and everyone was happy. Every desire could be mediated and satiated without delay thanks to the invention of currency. Everyone now had a ready medium of exchange that they naturally all started desiring for its own sake, increasingly beyond all prudence and common

sense. Welcome to Capitalism.

Smith was understandingly cagey about how the butcher, the brewer and the baker were supposed to get their hands on the currency provided by the goblins at Gringotts, and he was also a bit circumspect about where the goblins prestidigitated it from in the first place. He also failed to address the mystery of what a lot of his more down-market audience was increasingly beginning to notice – that with the passing of time, the butcher, the brewer and the baker seemed to have less and less meat, beer, and bread between them, but the goblins themselves, without actually doing much except playing golf and counting their money, seemed to always have more than enough of everything.

Capitalism's most exculpatory founding myth – that without capitalism we would all be reduced to barter and the gods of the Economy would be very angry – was called out by anthropologists (i.e. nasty Left-wing liberals who, unlike economists, stoop so unconscionably low as to back up their arguments using scientific evidence).

> "No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money … All available ethnography suggests that there never has been such a thing."
>
> - Caroline Humphrey, *Barter and Economic Disintegration* (1985)

Smith was caught red-handed doing the Conservative stock-in-trade, trying to argue that the way the ruling classes and their lackeys have structured their economy and our social hierarchy is only "natural", the "default system", therefore divinely ordained and something much like The Law of Gravity, which no one in their right mind could possibly argue against.

Why this is all so politically charged is because the ghoulish question lurking in the wings is always, "Is money to blame for slavery, inequality, centralization of authority and imperialism?"

Economists are the cronies of the people who manufacture our currency out of thin air for their own benefit, so they tend to shriek a horrified "No!" at the mere suggestion that our global prosperity cult, based as it is on their money, can be anything other than beneficial for everyone.

*The Industrial Revolution (really a Financial Revolution) raised the standard of living for us all, right?*

What anthropologists found is that most indigenous communities relied on "gift economies" – the same system that Burning Man runs on. Horror of horrors, *that's* actually *the default system*!
Before large trading centers of more than a Dunbar's worth of trading partners

emerged, everyone generally knew everyone else in the community so trade was based on an honor system of favors, or a *wasta* system ("wasta" being the Arabic word that loosely translates into nepotism, "clout", "who you know" or who "owes you one").

Never the sharpest tools in the shed, generations of economics students have failed to notice the obvious solution to Smith's fake dilemma. If ever a circle of trading partners really found itself in bartering deadlock, they would obviously just say cheerily to each other, "Don't worry mate, it's on the house. Just pay me back when you can."

And then they would all go about their business quite merrily, without so much as an onerous "I'll-be-your-friend-for-a-small-fee" goblin in sight.
Our primate brains keep meticulous account of who groomed whom, and how much, and what Peter owes Paul. As the Yale experimenters found when they taught monkeys to use monetary tokens, the relative harmony of monkey society broke down into greed, theft, vice and prostitution as soon as the intermediary of money was introduced.

As perennial intermediaries, the game of Church and State is always to try and increase their intercession into human affairs, be it between man and wife, buyer and seller, rich and poor, doctor and patient, victim and aggressor, food and diner, master and slave, Nature and mankind, supplicant and God or mortal beings and Death. Civilization is ultimately a game of thrones and altars run by interfering, parasitic middlemen.

So when wealthy White Conservatives lament the social degradation in the "inner city" (their euphemism for Black areas), they ought to remind themselves that the vices they abhor are totally *unnatural* for a primate, and a direct consequence of the stuff inflating their bank accounts – the very same stuff explicitly condemned by prophet after profit in the pages of the leather-bound book they always seem to be thumping. As the Church has always extolled, "Money is evil, so let us keep it for you."

Even large agglomerations of anonymous barterers, such as might have gathered at Göbekli Tepe, would never ordinarily find themselves in Smith's straw man argument of trade deadlock. The reason is simple. A formal currency issued by a central authority is never needed, because in any market there is always usually something in short supply that everyone wants, and that quickly and spontaneously becomes the default medium of exchange and store of value, or currency, of the marketplace.
For example, in Ancient Roman times it was salt.

Without an artificial means of refrigeration, everyone needed salt to pickle or preserve food. Before vast salt mines were discovered underground, salt was in short supply, so it naturally became the local currency. The state used salt to pay Roman soldiers and the payment became known as the *solarium argentum*, which is

where we get the word "salary" (and why we tend to say most economists are "not worth their salt"). Now you may think that banks provide a useful service, because it would be really inconvenient if you had to pay everyone with bags of salt. But if you even understood half of what the financial system does, you would happily lug sacks and sacks of salt around if that were all it took to get rid of bankers

In places of incarceration, such as prisoner-of-war camps in World War II, cigarettes have often become a currency and been readily used by inmates whether they smoked or not. In cold countries, where everyone needs warm clothing but animal skins are in short supply, hides, pelts and fur have traditionally become the currency of exchange. The modern Finnish word for money ("raha") originally meant the "fur of a squirrel". In North America, the slang word for a dollar – a "buck" – comes from the trade of buckskins, which were a standard currency when things like buck were still around.

So what was the currency at Göbekli Tepe?

Clearly, it was arrowheads.

There are a lot of arrowheads strewn around Göbekli Tepe. The entire site is littered with flint arrowheads, chipping and scraping tools.

I'll come back to this important point later, but after hundreds of years of use, the whole temple complex was *deliberately* covered over with dirt, filled in and abandoned. No one knows why.

Curiously, the till or dirt that was used to bury the site included copious amounts of perfectly useable stone carvings and arrowheads with mainly Helwan and Aswad points. Since they must have been valuable to them, why would hunter-gatherers simply throw them away?

I think the answer must be that they were considered part and parcel with the temple and the activities that went on there. In a sense they were like grave goods. Although valuable, the people symbolically discarded them as part of a cleansing ritual that involved emotionally detaching themselves and breaking away from what Göbekli Tepe represented to them, much like a human burial and funeral.

Practically speaking, the arrowheads were just tools and were used for hunting. A slain auroch was found a few years ago with a flint projectile point fragment in the back of its skull. But what was the symbolic meaning of the arrowheads? Symbolically I think they served as trading tokens – *money*.

There are far too many of them and they are far too centrally concentrated to just be detritus from the hunt. If they were, then I assume most of them would be damaged, and as far as I know, they are mostly pristine. At least, all the ones I was shown were perfect.

Experimental archeologists assume it took under ten minutes for a skilled flint knapper to make an arrowhead, but it takes a decade of practice or more to acquire the necessary skills. So arrowheads could reasonably have fulfilled the criteria for being a standardized medium of commercial exchange since they had scarcity but the majority of people needed them.

Occasionally anthropology papers come out proposing that flint tools must have functioned as money in prehistory and had symbolic value beyond being mere implements. But they always seem to be by junior scholars and are ignored by the mainstream because it doesn't fit with orthodox preconceptions in the field.

The general perception is that money (as specie) was a latter-day invention by the Lydians, and money itself plays a minor role as a mere lubricant for commerce once civilization gets off the ground. As an outsider, it seems to me this a gaping hole in the general understanding in the field of archeology.

Because they have their heads in the dirt, archeologists think of Homo Mercator as being a toolmaker (and implicitly male). Therefore they think tool making is the ability that ultimately unlocks civilization. What they fail to see is that Homo Mercator is first and foremost a trader, and as such tools are just tools of the trade. It's trading, and trading places, that unlock civilization. Which implies that both males *and females* are trading. And it also implies that there are traditional trading places or marketplaces (like Göbekli Tepe). What exactly arrowheads are used to pay for in the exchange between males and females (and perhaps males and males and females and females) I leave to your imagination, but the Yale study with monkeys and monetary tokens clinches the case. However *females* (and the mammalian brain, with its nesting instincts) are driving the domestication process. *Cybele is always in charge!*
Don't forget that in Ancient Greece, Cybele, the Anatolian mother goddess, was assimilated into the Grecian Earth-goddess *Gaia* and became *Demeter*. In Greek mythology Demeter was the goddess of Civilization. She is supposed to have invented agriculture, turned grains into food, and was known as the "Law-Bringer." We have grown deaf to what the ancients were explicitly trying to tell us. If stone tools like arrowheads and hand-axes are money, it explains some deep mysteries about tool making.

Archeologists are often baffled why the march of technical progress from fire towards writing ebbs and flows so much. Looking back at our origins, our culture tends to see Civilization as the Grand Prize, and scholars can barely contain their frustration that the process took so long, and there was so much dithering along the way.

There were apparently so many close calls, false starts to the Industrial Revolution that ancient people seem to almost be maliciously taunting technophiles of today with their tardiness *("Hero of Alexandria invented the steam engine in the 1st Century! Why, oh why, didn't the Industrial Revolution launch right then? Oh the stupidity!"*).

I get the impression that if archeologists could get in a time machine they would be like Biff in the *Back to the Future* movie. They would go back to the Stone Age and slap our ancestors for being such blockheads. There is apparently so much backsliding involved in "Progress.

Once an innovation or new skill was developed, we tend to think that such a hard won and valuable step forward in the march towards Civilization ought to be locked in somehow. However our forebears tended to dither, and frequently took one step forward and two steps back. Often toolmakers seem to forget how to make tools and their tool making skills deteriorate. Why were our ancestors so frustratingly asinine? Why didn't they just get on with it and invent the computer?

When it comes to understanding the past, I think it's a good rule of thumb to assume that ancient people were generally smarter than us (in the case of archeologists and economists, a good deal smarter than us). So when we see tool-making skills decline or ebb and flow in the archeological record we should begin our enquiry in that frame of mind.

If tools once served as money, then currency (and trade) predates our species, Homo Mercator, and everything becomes clear. Arguably, then even the Industrial Revolution predates us.

When archeologists see tool making skills wax and wane, I think they are seeing evidence of the Cantillon Effect. Some sites in Africa show tremendous amounts of debitage (waste from chipped, stone tools), which can only be from vast industrial activity where insane amounts of intensive tool making must have been going on in what researchers call "lithic landscapes."

Given the low population densities of hunter-gatherers, there must have been times when every man, woman and child was hard at work in the tool production business. It hardly seems commensurate with that amount of hunting that must have been going on to support them. In fact, in some cases it almost looks as if the people are forgetting to hunt and gather and have become so obsessed with tool making they do little else. And yet, at the same time, the quality of the tools and the time spent in making them sometimes seems to decline.

Any undergraduate economist can easily explain away the mystery: *if things like arrowheads and stone tools were used primarily for trade, then we are witnessing early evidence of monetary inflation in the archeological record.*

According to Richard Cantillon, one of the fathers of Economics, as the amount of money in circulation increases, prices go up and its value goes down. In the case of hunter-gatherers, they must have repeatedly got themselves into an inflationary collapse.
What probably happened was that proto-marketplaces allowed the exchange of goods

and services (gathered food, meat and sex) and more and more participants in the market found it easier to produce the tokens of exchange (stone tools) than to produce the actual goods being traded. It's inevitable, because the trading place attracts nomadic people to a central point.

The amount of traffic and overpopulation around that center drains the local natural resources and depletes wildlife, which in turn increases the price of goods in the market through scarcity and asymmetries between supply and demand. On the other hand, services are on the increase. As the price of goods go up and freely available resources in the wild decrease, more and more people are forced into prostitution, theft, social parasitism and tool making (what we euphemistically call the "service industry" today – and David Graeber cuts through the bullshit to call "Bullshit Jobs"). There's less actual hunting and gathering going on and more rock chipping for its own sake.

As the market is flooded with stone and obsidian tools (money), people produce them ever more fervently, and they spend less time and effort on each tool. That's why it appears that the toolmakers are losing their tool making skills.

In actual fact, they are really just reducing the care and time they put into each item as they adjust to the declining value of each tool in the market as it becomes saturated. This is known in economics as Gresham's Law – "bad money drives out good" (or badly-made tools, and more of them, drive out good quality ones). According to Gresham's Law, traders would have held onto their good tools and used quality tools less and less in the marketplaces.

At the same time the market is flooded with poorly made tools, which only exacerbates the problem. All hominids that have ever traded using a currency must have inevitably found themselves in this trap.

The only way out is social collapse and eventual dispersal of the community.

At the highpoint of its monetary value, one can see Neanderthal tools that are sublime. Their symmetry is exquisite and it's common to find that they have been crafted around some attractive feature in the rock such as an embedded fossil. They are really *objet d'art*, and considering the amount of time, skill and attention given to them it's hard to believe that they were just workaday, utilitarian instruments for hunting. Even back when they were crafted they were probably celebrated collector's items and no more intended for actually hunting than a priceless Katana sword would be used for combat today.

However there are often signs of progressive decay in the handiwork. It's sometimes equally possible to find tools in the same area that are barely better than raw stones that any child could have fashioned in a hurry. The evolution of stone tools does not progress smoothly.

Some researchers have answered this conundrum by suggesting that communities at various stages of technical development lived alongside each other. Just as today, indigenous people with bows and arrows share the same world with sophisticated and technologically advanced people in places like New York.

Except that people don't use cell phones on one street in New York and bush telegraphs or drums on the next. However what you do see in New York are people brought down by the Cantillon Effect and Gresham's Law alongside people living large on unearned income. As the Federal Reserve Bank floods the monetary system with liquidity, it acts like Paleolithic stone quarries that flood the market with too many stone tools. Eventually everyone is driven into poverty.

Just how big and bad this trap can get can be seen in the deserts of southwest Libya in a place called *Messak Settafet*. On a massive sandstone escarpment, there is an abundance of prehistoric rock art and stone tools, a lithic landscape from the Pleistocene Era. Just how many stone tools are amassed there is astounding. In some areas there are 75 tools per square meter, or 75 million per square kilometer. Stack all those up in a pile and it would be the volume of the Great Pyramid of Giza every square kilometer. And the area of Messak Settafet in question is 350 kilometers by 60 kilometers!

Researchers call this Saharan "carpet of tools" the first anthropogenic environment, which means the first natural environment entirely shaped by humans. Twenty thousand years ago the Sahara was lush and green and there was an abundance of fauna and flora. But I doubt the hunting grounds were so rich they justified that many tools.

Scientists don't think that the Sahara Desert was manmade, but one wonders how quickly it would have desertified with that kind of intensity of exploitation. Depending on the sedimentation rate, 50 meters of sediment in Africa may represent 100,000 years.

So in Messak Settafet the sedimentation rate was either exceptionally slow or the tools were created relatively recently in a huge volume over a very short period of time. If the tools had symbolic monetary value, rather than just utility as hunting instruments, that could account for why they are so ubiquitous. It would also account for why they are all clustered around the point-of-manufacture at the Messak Settafet escarpment, rather than scattered around the wider plains where one would expect the game to roam.

Perhaps due to the Cantillon Effect, the tools became virtually worthless – one could pick them up anywhere – so the trading spaces were overpopulated, the hunting grounds were over-exploited, and the people had to vacate the area. That seems to be the pattern at Göbekli Tepe too.

Klaus Schmitt recognized that 5,000 or more hunter-gatherers must have been

involved in the rituals at the temple. He speculated that kind of crowding must have severely depleted the available resources in the neighborhood.

There was plenty of evidence of feasting and beer drinking (long before wheat and hobs was even domesticated). Again, the abundance of arrowheads is concentrated near the temple enclosures, when one would have expected them to be scattered around the neighboring hunting grounds. A good explanation for that is if they were being used for trade in the temple precincts.

Schmitt observed that a presiding elite must have been required to organize such a large number of people. He didn't think that the significant amount of planning involved in constructing the site could have been the result of self-organization without supervision. His idea was that all the food and alcoholic beverages were the way in which the overseers coerced egalitarian nomadic people to assemble and voluntarily donate their labor. The flaw in that idea is, how did the overseers manage to get their hands on all that food and beer in order to pay the "workers" in the first place?

The obvious answer is that the overseers must have been priests and priestesses. They were selling religion and providing burial services that were the primary draw to the site. The temples themselves were thus probably commercial operations.

Entrepreneurs must have run an economy based on the exchange of arrowheads exchangeable in the marketplace around the site for a variety of goods and services. The profit from those operations must have been used to pay for the expansion of the complex. The more it grew, the more popular it became. It was essentially Las Vegas – increasingly a Las Vegas in the desert.

It may seem odd to some of us that commercial entrepreneurs would run religious temples, but there are many examples of it around the world even today. A prime example is the Dakshineswar Temple in West Bengal near Kolkata. It was built in 1855 with the investment capital of a rich businesswoman called Rani Rashmoni (no, I'm not kidding). Part of the temple's fame is that it is closely associated with Swami Vivekananda and Sri Ramakrishna, who have since achieved literally god-like status in Bengal. The pious Ramakrishna Math & Ramakrishna Mission has frequently tried to purchase the temple from Rani Rashmoni's descendants, but they are unlikely to part with it because it is such a money-spinner.

A pilgrim to the Dakshineswar Temple approaches along a kind of sacred way that leads up to the temple gates. Along the way are market stalls filled with all sorts of merchandise, but mostly garlands, fruit and offerings for the temple. This is exactly how I imagine the approach to Göbekli Tepe must have been in its heyday. Once inside the temple precincts the devotees wait in a long line until they reach the inner sanctum and can offer up their gift to the Goddess that the temple is dedicated to – *Kali.*

Kali is basically a version of Cybele, and I'll argue in the next chapter that the

Brahmins who built the Kali temple are the displaced descendants of the people who built Göbekli Tepe.They still have much the same religious beliefs and temple structures that they had 10,700 years ago in the Armenian highlands. It's barely even the difference between a Catholic Church and a Lutheran Church, and its still the same old racket. Pilgrims offer bundles of cash, garlands of flowers, fruit and food to a fearsome statue of Kali in order to ease their death anxiety ("throw the scary dog a bone and perhaps it'll leave me alone").

The offerings are quickly snatched by temple "priests" who run a brisk bucket brigade to whisk away the goodies. The money goes into a slot in a large padlocked chest, and the fruit and flowers gets ferried back to the market stalls to be resold to the next pilgrim!

Coming as it does from the hands of the lower castes, the food is not ritually pure enough for the Brahmin priests to directly consume themselves, so it's given away to the local poor so that the community sees the parasitic priests as the "good guys." The velocity of this commercial trade is remarkably swift, as I imagine it was at Göbekli Tepe too. After the pilgrims have frenetically made their offerings, they then go to a courtyard to sit quietly in devotion and meditate or count their blessings.

I doubt if many of them reflect on how they've just been ripped off, or perhaps been thoroughly short-changed in their experience compared to the lucky devotees at Göbekli Tepe. In olden times they probably finished off with a feast, beer drinking, and maybe even ritual orgies and human sacrifice, for all we know.

But I guess all commercial enterprises have to be thrifty and engage in cost-cutting measures as the franchise matures (I still nostalgically remember the good old days when the Catholic Church offered you a wafer and a sip of wine, which is seldom done these days).

Still, it's worth noting that like Cybele, the fearsome figure of Kāli conveys birth, but also death, destruction, and cosmic dissolution. Worshipping her is associated with all sorts of taboo-breaking and socially suspect practices.

She has aspects of being a "forbidden thing" associated with cremation grounds, or even Death itself. Kali is a Tantric goddess who traditionally has a macabre garland of severed human heads around her neck. She is normally depicted with a crescent-shaped sword or a giant sickle and a *trishul* (trident). She usually has a severed head in one hand and a bowl or skull-cup (*kapāla*) to collect the blood dripping from it. At least one branch of her worshippers ("Left-handed Tantra") secretly engages in ritual human cannibalism (though don't expect any patriotic Indian to admit that).

A sect of organized gangs of stranglers and murderers called the Thuggees (where we get the word "thug" from) used to consider themselves children of Kali. By regularly murdering people and sacrificing them to Kali, Thugs believed that they

were doing a service for the greater good, because they claimed that without their constant propitiations of Kali she would destroy all mankind.

One question still looms large about Göbekli Tepe: *where were all the traditional shamans while all this madness was unfolding?*

Were the shamans involved? Were they the priests and priestesses who organized the whole show and presided over the rituals?

So far there's almost no evidence to shed light on the question. But I suspect that there are two social counter-currents involved here. Traditionally shamans are healers and guide a community back to sanity when the society runs adrift (as it clearly did at Göbekli Tepe). They are usually solitary figures that live on the margins of society, occasionally initiate another shaman, but seem unlikely to rally a community for insane projects like megalithic astral temples. That's the kind of thing they were usually there to prevent rather than encourage.

Occasionally one gets a prophetic maverick like Moses, but he seems to be a full blown manic schizophrenic ("unhealed" variety) – a prophet with a tendency to hallucinate, rather than a genuine shaman, who clinical psychiatrists like Julian Silverman identify as "healed schizophrenics."

> Significant differences between acute schizophrenics and shamans are not found in the sequence of underlying psychological events that define their abnormal experiences. One major difference is emphasized—a difference in the degree of cultural acceptance of a unique resolution of a basic life crisis.
>
> In primitive cultures in which such a unique life crisis resolution is tolerated, the abnormal experience (shamanism) is typically beneficial to the individual, cognitively and affectively; he is regarded as one with expanded consciousness. In a culture that does not provide referential guides for comprehending this kind of crisis experience, the individual (schizophrenic) typically undergoes an intensification of his suffering over and above his original anxieties.
>
> - Julian Silverman, *Shamans and Acute Schizophrenia* (1967)

The presiding priests were probably not imbued with the "divine madness" of the shamans. I think they suffered from Hernán Cortés' madness – the lust for lucre and immortality.

I doubt a single expert in the field of comparative religion would agree, but this is what I speculate happened.

At Göbekli Tepe there seems to be a fundamental shift, maybe even a complete flip

of the religion one expects at the time. What was previously revered on the Earth becomes worshiped in the Sky, aspects of divinity once assumed to be female become male, the certainty of human mortality is replaced by a conviction of immortality, the supremacy of Nature is replaced by the supremacy of mankind etc. It's a Great Inversion of All Things, which can only be the signature of the alien cortex in ascendance.

Crucially, what was once natural (e.g. shamanic rituals in caves) becomes artificial (i.e. religious rituals in circular enclosures or *temenos* outdoors). Matters of the spirit and the afterlife seem to shift from being the domain of the shaman and the individual to the domain of organized religion, collective worship and probably a formal clergy. We see the first signs of hunter-gatherer folklore and oral tradition being replaced by official state-like doctrine, authoritarian diktat and propaganda (transmitted to the pre-literate then as now, as murals on the walls of religious buildings).

The shift is almost like the Dionysian character of the nomadic hunter-gatherers worldview being replaced by the modern, Apollonian outlook. Whereas before mankind was ruled by the older four brain layers (dominated primarily by the mammalian brain represented by the Mother Goddess, Cybele), suddenly the alien cortex is in ascendance (represented by masculine gods, like Ahura Mazda, Yahweh, Siva, and the solar disc or *Helios* etc.). The shift is actually preserved as a kind of time-lapse in stone. Over time the buildings at Göbekli Tepe gradually go from circular to square, and I trust you already know how to interpret that!

My suggestion is that the old world was in conflict with the new (alien cortex). Göbekli Tepe wasn't just a place of personal rebirth into the afterlife; it was the birthplace of collective modernity and the inevitable risk of near-term human extinction.

I imagine that the ancient shamans of that time must have intuitively sensed the danger. They might have even pleaded and prophesied doomed from the margins for about 800-1,000 years, like ascetic Hosea-like Cassandras trying in vain to warn the people that they had opened Pandora's Box.

However, in a dim echo of our own times, the partygoers, priests, revelers, and merchants were probably deaf to their dire prognostications. *"Keep your stinking wilderness; we're off to immortality and the stars!"*

If the collapse of later civilizations (such as Rome or Sumer) is anything to go by, then against their own interests, nomadic hunter-gatherers in the surrounding areas (i.e. "barbarians") probably supplied the festivities at Göbekli Tepe and contributed to their own downfall by degrading the natural environment, which led to the near Dust Bowl conditions there today.

Just like today, it was probably not obvious to the people that their declining fortunes were directly due to their own anthropogenic activities. As the fertile surroundings

were denuded, game driven away, and the micro-climate altered, to many it must have merely seemed like the Fates had turned against them, rather than recognizing that they were victims of their own hubris.

It's unlikely that the shamans would have argued their case against the new culture from a position of simple secular population demographics and environmentalism. What's more probable is that they would have accused the religious priests and power brokers at Göbekli Tepe of committing a sin, possibly against the ancestral spirits and supernatural guardians. There is a traditional belief in some shamanistic traditions that if people fall out of favor or anger the ancestral spirits, then the spirits withdraw their protection, which drives people towards madness. That certainly fits the bill at Göbekli Tepe.

My reinterpretation of events is that the emergence of the alien cortex, in its split Neanderthal-Cro-Magnon form, cut people off from their old archaic ancestral brain and made them inhuman. The activities practiced in the temple, and later in full blown civilization, *were inhuman*.

The archeological evidence seems to show that the shamans managed to close the lid on Pandora's box three times. Göbekli Tepe had three incarnations, built one on top of the other. The first and oldest layer (Layer III) is the most magnificent and extensive. Only four incredible circular enclosures (of about 10-30 meters diameter) have been excavated so far, but ground-penetrating radar indicates that there are 16 more (enclosing nearly 200 giant megaliths) waiting to be unearthed in that layer alone. Our own civilization is likely to be over before we have excavated the whole site.

Layer III was in use from about 11,600 years ago to about 10,800 years ago (800 years). Then, as I said, it was deliberately filled in and buried. The interment seems to have been done with a good deal of care and solemnity. It was not done in anger or wanton destruction.

The debris (till) used to cover the site was filled with an archeological treasure trove of what must have been the equivalent of priceless
artifacts and arrowheads (which, if they were money, represent a considerable sacrifice). It's staggering to contemplate the amount of time and effort that must have gone into carving such amazing stone statues long before copper tools were invented, so researchers find it incomprehensible why they would simply be discarded in such a strange ritual.

Except for a few theories on the lunatic fringe (such as the temple complex itself was a buried time capsule and message-in-a-bottle intended to warn us of a future comet etc.) no one has come up with a convincing theory of why the people behaved this way. Since archeologists admire Civilization almost by definition, they simply cannot conceive of anyone turning against it. They are speechless (but grateful archeologically speaking) as to why a population would build something as

magnificent as the Vatican, St. Paul's Cathedral, and Chartres Cathedral all rolled into one, and then desecrate them by filling them in with the equivalent of the treasures of the Louvre and the British Museum (plus all the cash at the Royal Mint) mixed with truckloads of dirt.

But if you think of it from the point of view of Ted Kaczynski, John Zerzan, Derrick Jensen, Pentti Linkola or other radical deep ecologists and environmentalists, its obvious what happened: *the people saw the light and changed their ways!*

The Burial of Göbekli Tepe marks one of those rare occasions when Killer Caucasians have a brief moment of solidarity and sanity in their headlong rush towards self-extinction. Other notable times in history have been with nuclear arms reductions, the Paris Agreement on Climate Change and the Geneva Conventions on warfare. Times like that are notable for two things: they are exceptionally rare, and everyone almost immediately backtracks on them.

Such was the case at Göbekli Tepe.

Whatever the consensus was when the first version of the temple was buried, it was rebuilt again a few generations later. In Layer II all the circular temene have disappeared and given way exclusively to rectangular rooms.

The T-shaped pillars are still there and all the old tropes have not been forgotten, so Göbekli Tepe 2.0 continues with the same culture and functions. However the whole extravaganza becomes more modest at that stage. Researchers like Klaus Schmidt realized that's because the first version must have exhausted all the local resources, but they can't seem to make the mental leap to realizing that's why Version 1.0 fell out of favor and was deliberately terminated.

Although the first version died and was buried, the idea and the culture behind it clearly did not die with it. Which implies to me that there must have been at least some dissenters that disagreed with its termination.
When things at Göbekli Tepe became too much of a good thing and inevitably went bad, the shamans probably regained their moral authority in the community as the situation deteriorated. They were finally able to convince the masses to repent and revolt. If that's the case then one wonders what happened to the priests and other organizers.

Since there were human bone fragments found in the till., archeologists may yet dig up the bodies of a few guillotined priests and proto-aristocrats! Perhaps, in a reversal of social norms, the counter-revolutionaries may have even dined on Elites, which is a whole new slant and pedigree on the modern radical anti-Capitalist slogan, "Eat the Rich!"

If there really were two competing factions, something like priests vs. shamans, then the shamans may have been proto-Luddites but they weren't exactly traditionalists or

Conservatives. As “healed schizophrenics” I think they would have been radical ascetics, misfits and loners that hardly deserve the label of Conservatism. Like most shamans today, they were probably natural Anarchists – the kind of discontents that Freud had in mind when he wrote *Civilization and Its Discontents*.

> One of these exceptional men calls himself my friend in his letters to me. I had sent him my little book which treats of religion as an illusion and he answered that he agreed entirely with my views on religion, but that he was sorry I had not properly appreciated the ultimate source of religious sentiments.
>
> This consists in a peculiar feeling, which never leaves him personally, which he finds shared by many others, and which he may suppose millions more also experience. It is a feeling which he would like to call a sensation of eternity, a feeling as of something limitless, unbounded, something “oceanic.” It is, he says, a purely subjective experience, not an article of belief; it implies no assurance of personal immortality, but it is the source of the religious spirit and is taken hold of by the various Churches and religious systems, directed by them into definite channels, and also, no doubt, used up in them.
>
> One may rightly call oneself religious on the ground of this oceanic feeling alone, even though one reject all beliefs and all illusions. These views, expressed by my friend whom I so greatly honour and who himself once in poetry described the magic of illusion, put me in a difficult position. I cannot discover this “oceanic” feeling in myself.
>
> - Sigmund Freud, *Civilization and Its Discontents* (1929)

Shamans of the time were probably more oriented towards the past rather than the future; more inward directed rather than outward. On the other hand, I imagine the priests as progressive, outward and forward looking, and authoritarian. While shamans represented a memory of the past, priests must have been forward thinkers ready for a break from the past – a lot more like Freud than a shaman, and likewise, a lot more of a fraud.

Whereas authentic shamans then, as now, probably eschewed psychoactive drugs, preferring to rely on the human brain’s natural ability to produce psychoactive alkaloids (such as DMT), the priests and other opportunists and charlatans, likely took any shortcut they could. I would not be surprised if the priests also plied entheogens (such as magic mushrooms - psilocybin mushrooms or Amanita Muscaria) on the congregants. Specifically, beer was probably consumed at the site for its intoxicating properties. This probably marks the beginning of beer’s long and infamous association with Civilization.

Not only did it attract pilgrims to the site, but also, like any drug, it probably held them hostage. Beer is traditionally slave food, and it was used later to build pyramids,

cathedrals, and even empires. Along with the whip and the clock, it was the best way of controlling slaves.

Beer, of course, is liquid bread or starch, and starch was the cheap slave fuel that powers Civilization to this very day. The broad foundation of starch at the base of the USDA Food pyramid is not there because it's good for you; it's there because it's good for the System – the same system that was launched at Göbekli Tepe and was later used to build pyramids and sustain all sorts of other pyramid schemes (such as the global economy).

The priests were probably persuasive charismatic salespeople who rallied the masses, unified the people and filled them with optimism, hope and a glorious vision of the future (along with a beer ration, if not addictive substances like *Soma*). The shamans must have hated it. Once again we are back to the Cro-Magnon Neanderthal divide in the Caucasian hybrid and the reaction of the divided self in its struggle with mortality.

The second incarnation of Göbekli Tepe probably only lasted a few centuries, and then it too was filled in and buried in the same way. The cycle repeated a final time with Layer I. The last iteration of the temple complex lasted the longest, but it was also the most unassuming and unimpressive. The grand old days were well and truly over. Excessive hunting by the congregants probably ended the seasonal migrations of the gazelle, and the scale of the festivities and trade must have declined significantly.

At the beginning of the 8$^{th}$ Millennium BCE, Göbekli Tepe was deliberately filled in again for the last time. If it was shamans who slammed Pandora's box shut three times, then the final demise of the temple 10,000 years ago was not a decisive victory for them. The genie was well and truly out of the bottle and running, and it escaped south. Civilization, formal religion and the marketplace did not die out. It stayed dormant and quietly infiltrated the surrounding areas like Jericho, where the same theme reoccurs.

Don't lose sight of the fact that the predominant idea at Göbekli Tepe is trade, not religion. Religion is just an anxiolytic that's on sale in a very eclectic marketplace. There are probably other anxiolytics like sex, drugs, music and frivolous entertainment too.

Göbekli Tepe lies at the source of the Tigris and Euphrates rivers. If not the actual refugees from the original temple, then their proclivities and trading habits trickled down the two rivers to emerge 3,000 years later in Sumer.

Recorded history and statehood start with the Sumerians in the "Cradle of Civilization" in Mesopotamia, between the lower Tigris and Euphrates in what is now Southern Iraq ("Mesopotamia" is Greek for "between the rivers"). At that point the priests have clearly won hands down. There isn't a shaman in sight. Are the Sumerians really the

descendants of the people who built Göbekli Tepe? Is there even a connection between Göbekli Tepe and Sumer that bridges the intervening three millennia? What happened in the interim?

The people who built Göbekli Tepe are likely to be the same people that built Çatalhöyük which overlooks the Konya Plain in Turkey about 500 km west of Göbekli Tepe. Archeologists say that Çatalhöyük thrived as a proto-city about 9,000 years ago (roughly 1,000 years after Göbekli Tepe), but there is no evidence of a marketplace or trading center. So if you subscribe to my way of thinking then Çatalhöyük is the mirror opposite of a city (and hence the counterpoint to Göbekli Tepe). It's a village, not a trading place.

Were the pilgrims who flocked to Göbekli Tepe nomadic hunter-gatherers with no fixed address? Or were they already settled somewhere, centralized in dwellings in a place that's yet to be discovered? If Göbekli Tepe was the trading center for villagers, where were their settlements? If Göbekli Tepe is Delphi, where are the Greek city-states that it served?

I strongly suspect that they are waiting to be discovered under the Black Sea. It's glaringly obvious to all but archeologists that there's a huge missing piece of the puzzle. The lose strands of evidence, such as the population genetics, the mythology, the geology, and tantalizing hints of archeology, all support a semi-fringe theory called the Black Sea Deluge hypothesis. Since we are busy tracing the origins and history of Killer Caucasians, it means essentially that we are tracking their signature Y-chromosomal DNA haplogroup called *R1a*.

R1a originated 22,000 to 25,000 years ago and diversified approximately 5,800 years ago. Scientists contest where exactly it actually originated, mainly, I suspect, because they try to place the origin on a modern map, and tend to forget that at the time of R1a's genesis, the Black Sea *was not there* (at least not in its present state).

So you generally see ancestry maps for markers like the R1a and R1b haplogroups clustered around the Caucus and Eurasian Steppes (where Noah's Ark fetched up after the flood) rather than their true location, which is now under the Black Sea. Back then it was a freshwater lake fed by rivers like the Danube and Volga, and yet to be connected to the world ocean.

I imagine that the lake was a kind of natural paradise, a garden of Eden similar to the ecological wonderland of the Okavango Swamp (or Delta) which is a vast oasis teeming with fauna and flora which one can still visit today in the Kalahari desert in Botswana.

Forgetting the geography of the time, paleo-geneticists and prehistorians tend to shift the origins of Proto-Indo-Europeans too far north (into the Eurasian Steppes) and too far east (into the Caucasus Mountains, which bordered the freshwater lake).

> R1a-M420 is one of the most widely spread Y-chromosome haplogroups; however, its substructure within Europe and Asia has remained poorly characterized. Using a panel of 16 244 male subjects from 126 populations sampled across Eurasia, we identified 2923 R1a-M420 Y-chromosomes and analyzed them to a highly granular phylogeographic resolution. Whole Y chromosome sequence analysis of eight R1a and five R1b individuals suggests a divergence time of ~25 000 (95% CI: 21 300–29 000) years ago and a coalescence time within R1a-M417 of ~5800 (95% CI: 4800–6800) years.
>
> The spatial frequency distributions of R1a sub-haplogroups conclusively indicate two major groups, one found primarily in Europe and the other confined to Central and South Asia. Beyond the major European versus Asian dichotomy, we describe several younger sub-haplogroups. Based on spatial distributions and diversity patterns within the R1a-M420 clade, particularly rare basal branches detected primarily within Iran and eastern Turkey, we conclude that the initial episodes of haplogroup R1a diversification likely occurred in the vicinity of present-day Iran.
>
> - Peter Underhill et al., *The phylogenetic and geographic structure of Y chromosome haplogroup R1a* (2015)

What's possible is that there were settlements much like Çatalhöyük that were contemporaneous with Göbekli Tepe that have since sunk under the Black Sea when sea level rise caused the Mediterranean to overspill the Bosporus and pour into the Black Sea about 5,800 years ago.

I think that Çatalhöyük must have been a satellite settlement, almost a provincial colony of the main settlements at the freshwater delta, now lost. It was probably a satellite colony of the people in the Black Sea Area, located where it was because the marshland there reminded the inhabitants of the swamp delta they originally called home.

One curious feature of the settlement at Çatalhöyük is that there are no streets whatsoever in a large, densely packed co-habitation of around 8,000 people. All the open spaces and gaps between the houses that one would expect to be streets or alleys are actually garbage tips rather than thoroughfares.

The people got around by climbing over each other's roofs and descended into their houses through ladders in the ceiling. The whole arrangement resembles a vast ship, where the public areas were the deck above and people descended ladders to their cabins below.

The reason for this strange arrangement is that the village *was* a kind of ship in a way. Çatalhöyük was built on a swamp or marsh, so the villagers were maximizing their use

of space and cramming themselves onto the tiny islands between the reeds and waterways.

The people at Çatalhöyük were marsh-dwellers, and I think the Killer Caucasians of their motherland (what they would probably call “Fatherland”) were also marsh dwellers around the deltas of the Black Sea when it was still a lake. Interestingly, there was no social hierarchy at Çatalhöyük. The social structure there was fiercely egalitarian, and the society was extremely close-knit. So close knit in fact that Ian Hodder, the main excavator at the site and Director of the Çatalhöyük Archaeological Project titled his 2012 book about their social organization *Entangled.*

Çatalhöyük was abandoned about 7,700 years ago. What follows seems to be a kind of collapse and Dark Age that ends with the advent of metalworking in Serbia about 7,000 years ago, marking the end of the Stone Age and the beginning of the Chalcolithic or Copper Age. But just like the so-called Dark Age in Medieval Europe after the collapse of Rome and the beginning of the Italian Renaissance, it was not really a Dark Age. Just as Medieval Monasticism is popularly supposed to have preserved Western Civilization through the cultural regression of the Dark Age, there are signs Göbekli Tepe never really went underground figuratively speaking, even if it did literally.

Rather than disappearing, the culture expressed at Göbekli Tepe seems to have undergone a period of incubation before its spectacular comeback in Sumer. For example, the extraordinary Megalithic Temples of Malta seem to bear a familial resemblance to Göbekli Tepe.

Archeologists traditionally dated them from between about 5,600 and 4,500 years ago. Not because that’s what any hard evidence suggested, but merely because that allowed them to sleep soundly at night, tucked up snuggly with their Gordon Childe idols and copies of Karl Marx. Now that the discovery of Göbekli Tepe has tipped them all out of bed, it’s opened the floodgates (figuratively speaking) and given voice to scholars on the fringe, who have long been saying that the structures at Malta are probably about twice as old as is currently accepted.

If there is a connection between the temples on Malta and the temple at Göbekli Tepe (and there almost certainly is), then it’s enough to give orthodox scientists the heebie-jeebies, because that means the people at Göbekli Tepe were seafarers. If they got all the way to Malta, then who knows *where the hell else they got to!*

The next thing you know the kooks and barbarians on the fringes will be banging at the gates of the mainstream scholar’s Ivory Tower with all their wacky theories and the whole edifice the high-brow set spent generations constructing will come crashing down. Before you know it, some nutcase will be claiming the settlements under the Black Sea (discovered by Bob Ballard, in 2001) are the Lost City of Atlantis and claiming its inhabitants may have sailed to North America and become the Clovis People.

At that point liberal academics will have to call in the Political Correctness police to quell a riot. Native American people don't call themselves the "First Nation" without intending to make a point – a point few people on the Left want to see undone merely by inconvenient facts suggested in the pesky archeological record.
So I am definitely not the nutcase to make *that* claim.

However I would point out that when it comes to Clovis points (the fluted projectile points that characterize the Clovis people), the only place outside North America where Clovis points have been found is in southwestern France (dating to somewhere between 22,000 to 18,000 years ago). I also can't help noticing that there is evidence of boatbuilding, seafaring and deep-sea fishing in Australia 42,000 or more years ago. The colonization of Australia began at least 45,000 years ago, and required regular sea crossings of at least 30 kilometers.

Recently, the blue water sailor's essential companion, rope, was discovered on a flint tool that dates back 41,000 to 52,000 years ago. It came from a rock shelter in southern France, which was inhabited by the Killer Caucasian's inner-engineer and more intelligent half, Neanderthals.

It's generally accepted that the earliest known boats are hollowed out logs found in the Netherlands and France, which are about 10,000 years old. Indirect evidence of sea crossings in Europe (human occupation of Cyprus and the Greek island of Milos) dating back 12,000 to 13,000 years are not controversial.

However the "Clovis First" hypothesis is becoming very controversial, and has now been seriously undermined. There is recent evidence that pre-Clovis people occupied North America. Although all Native Americans are genetically Asian, it's now considered unlikely that the first people to populate North America could have crossed over from Siberia via the Bering land bridge (since it was not open).

Also, sites found in Brazil precede the Clovis people by 19,000 to 30,000 years. Scientists now say that the Clovis people likely came from the south rather than the north, because that's the closest they dare say to (cough!) "East."

Every year thousands of little pleasure craft leave Gran Canaria on the trade winds to cross the ocean in the Atlantic Rally for Cruisers (ARC). Many of those skippers stand watch at night, looking up to the heavens at the constellations depicted on the stone megaliths at Göbekli Tepe and wonder if they are following in the path of people that preceded them on the same journey before the end of the Last Ice Age. Not me, though. I'm going to stick with the mainstream archeologists, because they know what they are about!

So let's just agree the people who built Göbekli Tepe got as far as Malta and that's it. At that point they mysteriously and inexplicably just stopped.

However I still have a strong feeling that if settlements are found under the Black

Sea that predate Çatalhöyük, then they will probably include evidence of shipbuilding, advanced furnaces for glassmaking and metallurgy that predate the oldest known forges in Serbia and the Balkans (which would have merely been provincial outposts of the Killer Caucasian's main homeland).

The reason why the R1a haplogroup diversified suddenly about 5,800 years ago was probably because that was when the Black Sea was deluged with seawater that cascaded in from the Bosporus and caused the Killer Caucasians to disperse (with R1a trotting along with them).

At that moment there is clear evidence that the human population in the Balkans suddenly doubles and there are signs of a population bottleneck followed by extensive human migrations from the Steppes. According to the biblical account in the Hebrew Bible (Genesis 10:9), after the Great Flood the world was re-populated by Noah's three sons: Shem, Ham and Japheth.

Shem was the father of the Hebrews (which is where the term "Semites" comes from). In Medieval and early modern Europe, Japheth was considered to be the progenitor of European and East Asian people, while Ham was supposed to be the father of Africans and all Black people. Black people were considered to be black because Noah supposedly cursed Ham's son Canaan, because Ham "saw the nakedness of his father" while Noah was drunk. The mind boggles. Amazingly, a genetic study conducted in 2015 found that two-thirds of modern European males *have* actually descended from *just three men*. There is no similar population bottleneck in the maternal tree.

The researchers estimated that these three men lived at different times between 3,500 and 7,300 years ago. Though unlikely to have been brothers, the ancestors of these three lineages exploded and came to dominate Europe much like in the biblical account. They are considered to be the Yamnaya people, Proto-Indo Europeans who swept into Europe giving rise to the 400 Indo-European languages of today. The three genetic branches of each man mark the lineage of the crucial I1, R1a and R1b haplogroups.

Refugees from the Great Flood don't only head west, some of them head southeast (eventually becoming the Indo-Iranians, which we are not allowed to call "Aryans", and ultimately they become the Hindus, which we are supposed to say did not invade from the west). A massive migration over many generations also went up the Danube to blight the whole of Western Europe. These Yamnaya migrations were not peaceful; they were armies with about ten men for every woman. That ratio is even greater than for the Spanish conquistadors who invaded the Americas.

The Yamnaya were the first people to invent the wheel, and they swept through Europe on horseback with horse-drawn wagons or perhaps even chariots. And they brought their advanced metallurgical skills with them. Wherever these invaders went, they apparently conquered with ease and became the social elites.

The popular science magazine, New Scientist, ran a breathless article about them in 2019 entitled “Story of most murderous people of all time revealed in ancient DNA.” So I hope I’ll be forgiven for merely calling them “Killer Caucasians”! A splinter group headed higher up the Volga (Samara culture), but the ones Gordon Childe was interested in headed south.

A branch of the Killer Caucasians (what scholars now call Caucasian Hunter-Gatherers or CHG) headed to the local area that I think most reminded of their lost, swampy Fatherland. They migrated to (or invaded) the alluvium of the lower Tigris–Euphrates river system and became “Marsh Arabs” in Sumer. That’s where you were probably taught in school that Civilization started 5,000 years ago.There they invent writing (essentially to shackle business partners), they invent metallurgy (essentially to conquer, subdue and shackle slaves) and they carry on with the religion that started at Göbekli Tepe (essentially to shackle minds).

Somewhere along the way one of them realized that you could use writing to shackle minds too, just like religion, and they turned the cuneiform that had previously only been used to make legally binding contracts into an elaborate ruse called “literature.”

The oldest known work of propaganda (i.e. literature) is the *Epic of Gilgamesh*, which is the second oldest religious text after the Pyramid Texts in Egypt (brought to us by the people who were the southernmost branch of the Black Sea Exodus, but we will come back to that later). Not surprisingly, the Epic of Gilgamesh, which was the founding myth of the Mesopotamians, is all about the Great Flood, which Europeans mostly know as Noah’s Flood (or the Flood of Deucalion, son of Prometheus, if you were an Ancient Greek Killer Caucasian).

But what evidence is there that the Sumerians are our Yamnaya Killer Caucasians branded with their R1a haplogroup?

The Sumerians are an ethno-linguistic isolate, so anyone who wants to speculate on their prehistoric origins has a problem. The origin of the Sumerians is so obscure that scholars once even called the whole topic the “Sumerian problem.”

There’s been plenty of bias amongst researchers since they generally have a vested interest in claiming some affiliation or other between their own ethnic groups or cultures and the Sumerians. They are all under the delusion that Civilization is a “Good Thing™”, so they all tend to make claims on it.

The two main theories about the origins of the Sumerians are that they either came by sea from the South (from the Indus Valley bringing domesticated buffalo and rice, which is the Indian nationalists preferred story) or they migrated down from the mountains in the North (from PIE country and Göbekli Tepe, which is the European’s preferred story).

A genomic study in 2017 found that Assyrians and Yazidis are more closely related to the original populations of Ancient Mesopotamia than Arabs, Kurds or Turks. The study also found that the Sumerians were most likely indigenous rather than descended from migrants or colonists and they were not of Indian or South Asian ancestry.

My suggestion is that the Assyrians and Yazidis are two splinter groups of the Black Sea Exodus and so the Sumerians represent a local people invaded by migrants from Anatolia via the Mesopotamian plain.

Why would any people invade and then spontaneously start developing urban civilization in the middle of an unpromising marshland, and why in the environmentally challenging area of Mesopotamia in particular?

The impression academics traditionally gave out is that Civilization starts when some lucky dolts living amongst the reeds are suddenly touched by an angel and are miraculously transformed into gifted savants who then invent writing, mathematics, legal systems, the bureaucracy of the state, civil engineering, slavery, taxation, conscription etc. Coming from the same stable, Sumerian scholars also accounted for their civilization in much the same way.

According to them, Oannes, an amphibious half-fish half-man being, came out of the waters of the Persian Gulf and instructed them in everything from writing, the arts, the law, the sciences and agriculture. Oannes was likely an envoy of the chief Sumerian deity, Enlil ("Lord of the Storm"), whose primary center of worship was Nippur. Enlil was one of a triad of Mesopotamian deities – Enlil, An and Enki.

After the Sumerians died out, Enlil reappears as "El" in the records in southern Syria amongst the Canaanites, where he's known as "Father of the Gods." According to the myths, the particular gods he fathered where *Hadad*, *Yam* and *Yahweh*. Hadad was the storm god known as *Baal*, whom you no doubt remember as an arch villain from the Hebrew Bible. His rival brother *Yahweh* became the god of Abraham, and hence the supreme deity of the Jews, Christians and Muslims. That's a shocking bit of history that's worth relating to a Jehovah's Witness or Christian evangelist the next time one of them knocks on your door!

The look on their faces when you ask them if they know who Yahweh's father was is bound to be priceless. And their expression when you tell them the name of his brother is almost guaranteed to be even better.

The icing on the cake is when you explain to them that the reason their god is often referred to in the Bible as *Elohim*, is because it's the plural of "El." Elohim, the name often used for God in the Bible, actually refers to *three* sibling gods: Baal, Yam and Yahweh. And it wasn't Yahweh that caused Noah's Flood. According to the much older text in the Epic of Gilgamesh, it was Yahweh's uncle, Enki.

Obviously the spark of civilization was not an emissary from Yahweh's dad, Enlil, coming out of the sea to play Pygmalion or *My Fair Lady* to a few animalistic Marsh Arabs. So what's the secret?

As natural social conformists and successfully indoctrinated acolytes acculturated by civilization, scholars tend to think of Civilization as so attractive and desirable that once the key to urban industrialization was found, things naturally snowballed into the fully-fledged nation-state with an irresistible momentum as success led to success. Presumably the surrounding savages just looked on in amazed and envious jealousy, champing at the bit to come and join the party.

My guess is that academics are thinking too linearly and upside down (as usual). They are missing the obvious. Thinking laterally, both competing theories of the origins of the Sumerians (and hence modern civilization) are partially correct: *Sumer, and in particular the temple sanctuary at Nippur, mark a trading hub and commercial crossroads between the Fertile Crescent region and the Indus Valley people.*

I think Civilization superficially appears to start in Sumer because it is merely a crossroads on a vast trade route. Sumer was actually a malignant lesion in a maritime artery of the Silk Roads between Eastern Europe, the Middle East and South Asia (though I suspect that the Silk Roads are probably much older than silk cloth – so maybe they should be called Pelt Roads, Obsidian Roads or Flint Roads). Four thousand years after Göbekli Tepe, Malta and Jericho, places like Uruk must have become nexuses of mercantile exchange supporting close to 100,000 permanent inhabitants in an area that without trade could only support an order of magnitude less people.

Everyone remembers Uruk, but before Uruk, Eridu was the earliest city in southern Mesopotamia. Eridu was a tight agglomeration of temples on the coast. It is now about 210 km from the sea, but the shoreline has receded and in ancient times Eridu must have been a coastal port (or almost one).

According to Sumerian mythology, the progenitor god Enki founded the city and made it his home. It's easy to surmise that Eridu emerged as a trade center because that was were seagoing vessels transferred their cargoes to riparian or riverine transport – probably coracles which could navigate through the silted swamps, taking trade goods north almost to the sources of the Tigris and Euphrates (the two rivers merged at the coast at Eridu).

Uruk emerged as the new trading hub and gained the reputation as "the world's first city" because ancient canals were built from the coast through the marshes to cut out the competitive middlemen in Eridu. Uruk was later described as "Venice in the desert", which is extremely apt, because the merchants of Venice did exactly the same thing with canals through their marches to best their rivals, the Genoese, and take over a later extension of the very same Silk Roads in the Middle Ages.

It's clear that Oannes' arts arose not as a flash of inspiration, or even for their own sake, but rather as the necessary bureaucracy to manage (and tax) a burgeoning commercial marketplace.

As they grew in size, wealth, splendor and pungent odor, the Sumerian cities soon ran out of cheap voluntary labor and they resorted to raiding the surrounding hills and forests for the world's first slave labor (to build things like canals to cut out their rivals). Civilization was always first and foremost about greed, competition, parasitism, extraction and exploitation.

The Epic of Gilgamesh is about the hero-king Gilgamesh and his Sancho Panza, Enkidu (who, note, was a wild hunter-gatherer that Gilgamesh tamed and domesticated with the help of a temple prostitute).

The Gilgamesh story begins by praising Uruk for its glory and in particular its *strong brick walls*. It's easy to forget that walls generally have a duel function. With their upbeat and upside down view of the world, historians tend to overlook the fact that at that time there were no external threats that required Uruk to have defensive walls. The walls were actually there *to keep the inhabitants in!*

As attested to in the next bit of the saga, were we learn that the people of Uruk were not happy under the rule of Gilgamesh, because he was too harsh and abused his god-like power by sleeping with their women (including demanding one of the prime kingly fringe-benefits of civilization – prima nocta rights to legally rape brides-to-be on their wedding nights). Eventually the Sumerian Civilization fulfilled the inevitable destiny of all civilizations. It died from a now painfully familiar overexploitation of the land and from the pitchforks of the uncivilized people it subjugated, just getting plain fed up with it and revolting.

The city centers in Mesopotamia gradually moved north as the south became too saline to farm (due to irrigation and overuse). Puzzled admirers of Civilization tend to wonder why the Sumerians didn't just manage their crops more sustainably and practice crop rotation. The answer is a stark warning for our own times.

The Sumerians found themselves deeply embedded in a Civilization Trap. Their population grew too large to support with anything other than maximal crop production and land use. They knew they should have been leaving fields fallow occasionally so that the land could recover from the rude insult of being ripped by a plow and cultivated. However they were in a bind because they couldn't afford to set much of their land base aside as fallow fields without causing a famine.

So like us today on a global scale, they were trapped into chasing maximum agricultural returns in the short term in full knowledge of diminishing returns due to drawdown and depletion of the soils and fatal consequences in the long run. No doubt there were Greta Thunbergs or Enkidus in Ancient Sumer who warned, "This

can't go on!" Then, as now, they were probably met with, "What do you want us to do? To stop this merry-go-round now would be genocide! People would starve!"

Just like today, militant Anarchists, fed up with Ziggurats, hierarchies, environmental destruction and being enslaved and exploited, came out of the hills (the Zagros Mountains in Iran) to take revenge on the Sumerians.

By about 5,000 years ago the Sumerians were no longer identifiable as a distinct ethnic group. The Akkadians superseded the Sumerians and built the second great empire in Mesopotamia, but the Sumerian language still remained in use as the official language of administration and scholarship for another 2,000 years, rather like Latin remained the language of church and state in Europe long after the Roman Empire collapsed.

The Akkadians were a Semitic people that definitely came from the north. Their civilization peaked with Sargon the Great (whom the Bible apparently calls "Nimrod"). "Sargon" means "True King" in Akkadian.

As to be expected from someone with such a title, he was actually a usurper who emerged from humble origins. He didn't know who his father was and his mother was a temple prostitute or priestess to Ishtar or Inanna (who are versions of Cybele). He must have been ruthless, because after winning the famous Battle of Uruk he built an empire that stretched from Anatolia all the way to the Arabian Peninsula. You'll probably never guess how it all turned out.

> For the first time since cities were built and founded,
> The great agricultural tracts produced no grain,
> The inundated tracts produced no fish,
> The irrigated orchards produced neither syrup nor wine,
> The gathered clouds did not rain, the masgurum did not grow.
> At that time, one shekel's worth of oil was only one-half quart,
> One shekel's worth of grain was only one-half quart. . . .
> These sold at such prices in the markets of all the cities!
> He who slept on the roof, died on the roof,
> He who slept in the house, had no burial,
> People were flailing at themselves from hunger.
>
> - *The Curse of Akkad*, a lamentation after the temple of Enlil was plundered.

The Gutians, who we are told were savage barbarian hordes and opponents of Civilization, swooped down from the northern Zagros Mountains (again) to take advantage of the Akkadian's self-imposed woes. They used hit-and-run tactics until their incessant raids crippled the Akkadian economy.

The Gutians eventually broke up the empire and instituted local rule in a period that imperial apologists insist was a Dark Age, though I'm sure the Gutians, not to mention all the freed slaves, might have disagreed.

From there the Civilization Trap just keeps repeating itself right up to the present day. Except in each reincarnation the population and deficits tend to get bigger and the collapses more spectacular and lamentable.

An important part of our rosy cultural narrative about Civilization (what archeologists lovingly call "state-organized societies") is an insistence that after it's flowering in Mesopotamia and Egypt, that it then pops up entirely independently all over the world. This teleological argument is important because it's a crucial pillar to bolster the idea that Civilization is inevitable (and hence irresistible, just like Capitalism).

If state-organized societies are predestined to arise, then there is no point in trying to oppose the state. So knuckle under, drink the Kool-Aid, and start working hard on the question, "Ask not what your country can do you in for, ask what you can do for your country." In other words, as something invented and imposed by God, the state is more important than mere people.

In order to explain why civilizations spontaneously spring up independently and only in the last 5,000 years, scholars claim that Civilization was only possible with the remarkably stable and warm temperature regime in the time since Göbekli Tepe (the Holocene Epoch). It was only in those conditions that the flower of Civilization could germinate and farmers could support armies of non-producers, such as literal armies, priests, bureaucrats and artisans (on the back of Gordon Childe's mythical "surplus", which permitted ideas of ownership, extraction, social ranking and hierarchies to flourish for the first time).

Before the stable temperatures of the Holocene, we are asked to believe that the spirit was there, lying dormant, but the conditions for Civilization were just not ripe. People had the motive, just not the opportunity.

If that were so, why doesn't the archeological record show millions of years of failed attempts at state-organized societies that continually suffer a false start until they finally succeed in the Holocene? Why didn't people respond to early similarly warm periods in the Pleistocene Era with Karl Marx and Gordon Childe's Neolithic Revolution? And why don't state-organized civilizations burst forth straightaway out of the starting gate at the beginning of the Holocene, rather than waiting about seven thousand years?

Göbekli Tepe and Çatalhöyük prove that would-be urban-dwellers were not wandering around in the wilderness impatiently waiting for plants, animals or humans to be domesticated. I would argue that they weren't even waiting around for the right mindset. The necessary mindset came from hybridizing Cro-Magnons and

Neanderthals tens of millennia before. It was probably expressed long before, not only at Göbekli Tepe, but also in locations yet to be discovered under the Black Sea. The reason why Civilization seems to suddenly burst forth around 5,000 years ago is because of a unique event: *a forced exodus of people with the appropriate mindset due to the Black Sea Deluge.*

I'll admit that this hypothesis is cringingly close to the account in the Book of Genesis, but if this "single unique origin" hypothesis of civilization is correct, then it implies that all later civilizations did *not* arise independently. They are all somehow related.

Just as Progressives need civilizations to arise around the world spontaneously and independently for their optimistic conception of Civilization to work, my hypothesis requires civilizations to have human contact around the globe, and to arise by transmission from one to another.

What is the evidence for a single point origin and global transmission of Civilization? The answer is "not much", but mainly because the idea is dangerously heterodox, and scholars go out of their way to avoid seeing it.

The idea is also horribly politically incorrect. Predictably, mainstream scholars would try to shoot it down simply on the grounds that, putting aside for a moment the fact that race is a myth, it's insufferably racist (and as we all already know, if something's racist it must automatically be incorrect).

To most scholars, a single-point origin of Civilization harks back to inflammatory old White-supremacist theories, like the infamously racist "Lava-flow Analogy", which they like to claim have all been thoroughly debunked. Although perhaps not as thoroughly as they would have liked considering what population genetics and genomics studies are starting to reveal.

> Western Europe has had unique opportunities in her climate and in her resources. These, coupled with her choice of religion and philosophy, have given her the first place in the world, but it is too often assumed that race is the first factor and that religion is of equal importance, while environment is often ignored! The converse is nearer the truth; for, as we have seen, race per se has been only a small factor in the development of civilization.
>
> THE LAVA-FLOW ANALOGY
>
> We may picture the center of dispersal in Central Asia as a sort of "fissure eruption" sending forth streams of lava in all directions. Each new eruption arises from the center and, while covering some portion of the previous flow, pushes most of the previous lavas out to the periphery. If we postulate that the early lavas still retain some mobility and occasionally [over]flow the later lavas, we get a very close analogy to what has happened in the migrations of man.

- Griffith Taylor, *The Evolution and Distribution of Race, Culture, and Language* (1921)

Griffith Taylor thought that the more advanced races (i.e. Killer Caucasians) from Central Asia (i.e. the Eurasian Steppes) overran the older, more primitive, darker skinned races, and spread out, displacing indigenous people and driving them out to the margins. Although his theory is considered ultra-racist these days, notice how his argument for environmental determinism and downplaying of race echoes the doyen of the lowbrow Left wing intellectuals, Jared Diamond!

It's highly instructive if one looks at a timeline map of advanced civilizations as they arose in history. There are many excellent video animations on the web with a frame-by-frame evolution of the rise and fall of civilizations across the globe over the last 12,000 years or so.

What's striking when watching these animations is that civilizations don't just pop up randomly, as one would expect if they originated entirely independently. What emerges is a fascinating progression that looks very much like the spread of a human transmissible disease. It can scarcely be by mere chance that the spread of civilizations across the globe closely resembles epidemiology rather than a random and isolated phenomenon (such as the emergence of stalks in an asparagus patch).

Personally, I have a hard time believing that any advanced civilization, from China to South America, arose any more independently than, say, New York arose completely independently from Sydney.

Historians tend to gloss over finds like the Tarim mummies in Xinjiang, China, all too easily. The Tarim mummies are a group of 29 Caucasian mummies spanning a period of about 600 years, starting from 3,800 years ago. Particularly interesting is one called the "Cherchen Man", who sports a ginger beard. He has a red twill tunic made of felt and natty tartan leggings, like he just skipped over from Aberdeen for the day to see how China's first civilization was coming along!

It's impossible to believe that every place where an advanced civilization cropped up did so entirely in a vacuum without a single early, long-forgotten Marco Polo, Sinbad or Dr. Livingston figure turning-up to initiate or propagate it - especially since so many advanced cultures have origin myths that involve mysterious characters rising out of the sea, or turning up on the back of a dolphin, or arriving by boat, to instruct people in the art of civilization before rapidly disappearing again.

There's a whole cottage industry of authors on the fringe (usually haughtily denigrated as "pseudo-archaeologists" by the stuffy crowd), such as Graham Hancock, Robert Bauval and Andrew Collins, who have made a living out of pointing out bizarre connections across the ancient world that are probably not just mere coincidences. What really makes a single-origin theory of civilization racist is the idea that state

organization is superior to anything else, so it's automatically an insult to any ethnic group to suggest they aren't capable of achieving civilization on their own.

But that presupposes that civilization is a good thing and desirable. My argument is that civilization is a psychosocial disease, so the fact that a particular ethnic group manages to avoid it is actually a complement. As our civilization collapses and falls into disrepute, I have a feeling that people that think otherwise will increasingly be "on the wrong side of history" (to shamelessly culturally appropriate a favorite phrase from the Progressive Left).

In terms of the layered brain, it's worth noting that there is a radical psychological shift between Göbekli Tepe and Sumer. At Göbekli Tepe the Ancient Mother Goddess still appears to reign supreme.

Yet by the time of Sumer and the Akkadians the supreme deity (Enlil) seems to have switched to being a masculine figure. Social equality, or maybe even a Matriarchy, seems to have totally given way to Patriarchy and male dominance.

I suspect that this has something to do with a transition from Shamanism and mysticism to a priesthood and formal religion. From Sumer onwards, church and state form a strong partnership, apparently with an uneasy tension between masculine and feminine dominance. Eventually the Patriarchy seems to win hands down in all spheres, both Church and State.

By the time of the Christian doctrine of the Holy Trinity, we are told there is just one God and that God is male with three Trinitarian aspects – Father, Son and Holy Spirit. Clearly the Holy Spirit is obviously just an insipid version of the Holy Mother. Mighty Cybele, the Mother of All, has been reduced to the diminutive little figure of the Madonna, or simply a pale shadow or ghost behind the mighty Patriarchal God.

When the state projects a masculine aspect, I interpret it as a kind of unholy alliance between the collective alien cortex and our reptilian brain. And when the church assumes a feminine projection, I assume that corresponds to an unholy alliance between the collective alien cortex and our mammalian brain.

To see how and why this happens, we need to go back and try to piece together the belief system and religion of the Aryans, because it evolves into the mindset that almost certainly guarantees more genocide and eventual near-term human extinction in our day.

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**Editor's Note:** Iam Kemsley died before he was able to continue work on this, so unfortunately, this is where this book ends.

However, Ian researched extensively for this book, and his YouTube Channel is still publicly available:

# Ian Kemsley Resources and Archives

## YouTube Channel

**Ian Kemsley's Escape with Lord Hugh R. Adumbass"**
https://www.youtube.com/@escapewithlordhughr.adumba6195

**Most Noteable Videos:**

**Documentary: Darwin Was Wrong**
https://youtube.com/playlist?list=PLr_dGr-IFQm4xc3DVXCeZJ6TbE_EZXF5A&si=XACdkijrWovZ6t0K

**The Alien Cortex:**
https://youtu.be/byvpkoPMHNs?si=DdhzeppZQaWH8FxN

**Göbekli Tepe**
https://youtu.be/ATm-3NVdae4?si=xbi4rLjgDW6wZwFl

**Documentary Series - ESCAPE - NO ESCAPE with "Lord Hugh R. ADumbass**
https://youtube.com/playlist?list=PLr_dGr-IFQm4Shawf4cL6tMzTSz9AXHiz&si=701oOHP2BA6SwGUX

## Reddit

**Ian Kemsley's Reddit User Account:**
https://old.reddit.com/user/LordHughRAdumbass

**XRMED Subreddit - Ian's Climate Emergency Activism Targeting Extinction Rebellion**
https://old.reddit.com/r/xrmed/

**Extinctionati - Ian's "Anti-Cult" Alternate Reality Game Group**
https://old.reddit.com/r/Extinctionati/

**Debt Strike for Climate - Ian's Push for XR to Call For a Debt Strike to Save the Climate**
https://old.reddit.com/r/DebtStrikeForClimate/

## Book

**Saint George and The Methane Dragon (2020)**
Amazon Kindle:
https://www.amazon.com/St-George-Methane-Dragon-climate-fiction-ebook/dp/B0837R1SPW/

**Download PDF**
https://drive.google.com/file/d/1T5Hyg0-DyMQWkKPGfyJnH8BqechiEDz1/view?usp=sharing

## Website (Web Archive)

**Ian's Now Defunct Website, The Sirius Institute** (Web Archive Version)
https://web.archive.org/web/20201111213440/http://sirius.institute/

**Ian Kemsley's "Introduction to The Sirius Institute**
https://docs.google.com/document/d/1eHwt98MigEhgItK2K5GpRz81OYB8TSODpSJSmMcIkH0/edit?usp=sharing